

Pictured is the new reinforced concrete elevator of F. W. Stock & Sons, Hillsdale, Mich., one of the oldest and best known flour milling firms in the state. The building with its 16 round bins and 7 full interstice bins of 400,000 bushels, raises total capacity at the plant to 700,000 bushels. The bins are 20 feet inside diameter, 100 feet high, with walls 7 inches thick. All elevating and conveying equipment has a uniform capacity of 6000 bushels per hour, and the truck dump has handled 32,000 buhels in 8 hours.

GRAIN

THE MAGAZINE OF PLANT MANAGEMENT AND OPERATION



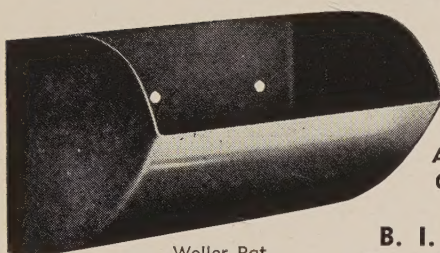
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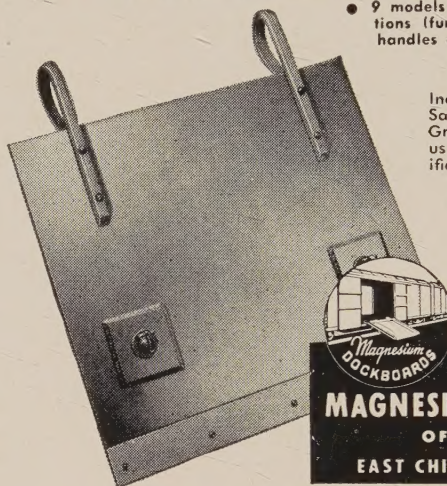
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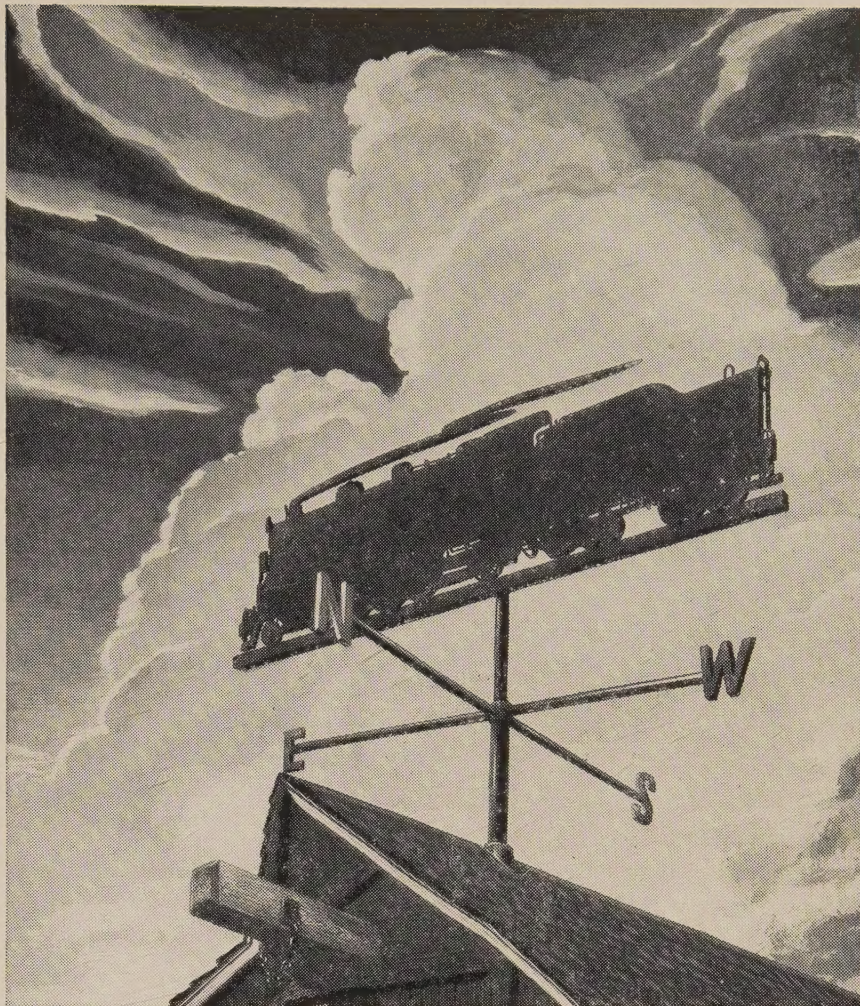
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SOGES CHAPTER MEETING DATES

1st TUESDAY — Minnesota SOGES Chapter. Henry J. Anderson, Bunge Corp., Minneapolis, President; James Auld, Hales & Hunter Co., St. Louis Park, Secretary.

2nd TUESDAY — Omaha Council Bluffs SOGES Chapter. John T. Goetzing, Rosenbaum Bros., Omaha, President; W. S. Pool, Nebraska-Iowa Elevator, Omaha, Secretary.

2nd FRIDAY—Central States SOGES Chapter. M. M. Darling, Acme-Evans Co., Indianapolis, President; N. R. Adkins, Ralston Purina Co., Lafayette, Secretary.

3rd TUESDAY—Kansas City SOGES Chapter. Orin Kinman, Cargill, Inc., Kansas City, President; George D. Duncan, Standard Milling Co., Kansas City, Secretary.

3rd TUESDAY — Chicago SOGES Chapter. Edward Anderson, Norris Grain Co., Chicago President; Harry Hanson, Glidden Co., Chicago, Secretary.

What turn will the weather take?

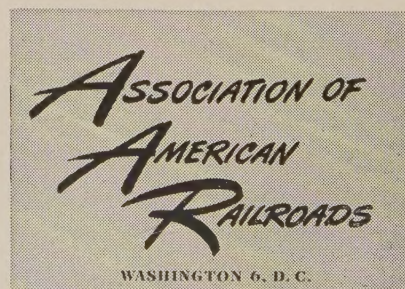
With eyes as sharp as those of any farmer, railroads watch the weather from the Atlantic to the Pacific, from Canada to Mexico. Acting on reports of current crop conditions, railroads concentrate cars in advance of actual harvest. They try to have an adequate supply of the right kinds of cars, at the right places, at the right times—to move each crop as it is ready for shipment.

Improved farm equipment makes harvesting of many crops faster and more efficient...creating shorter and sharper loading peaks. Railroads work faster and more efficiently, too. They are constantly improving their roadbeds, terminals, and other facilities...and purchasing all types of cars as fast as the builders can provide them.

It is not always possible to move record crops as they are harvested. But

last year the railroads moved more grain and grain products than ever before. This year they hope to do even better.

To continue to improve the world's finest mass transportation system, the railroads must be allowed to earn enough to keep them financially sound...so they can attract the additional capital needed for new equipment and new and better facilities.



ALARMING TEN-FOLD INCREASE IN SOGES ACCIDENT SEVERITY RATE

AFTER REPORTS WERE MADE SHOWING THE SOGES SAFETY CONTEST WINNERS IN 1946 AND THE ACCIDENT FIGURES WERE RELEASED, IT WAS DECIDED TO MAKE EVERY EFFORT TO HOLD THE FREQUENCY AND SEVERITY RATES TO A MINIMUM. THE KEYWORD WAS THAT "1947 WAS GOING TO BE A DIFFERENT STORY", AND IT WAS EXCEPT THAT IT WENT INTO REVERSE.

A comparison between official 1946 and 1947 reports shows that a concerted effort by the members of the Society will have to be made to develop a higher degree of efficiency for accident prevention. It also means that more emphasis will have to be given to methods and practices to make this industry a less hazardous industry for its workers.

It is a question as to how much greater would be the increase in these figures had all units in the industry reported instead of the 37 plants that did through the SOGES Safety Contest. With the added incentive to hold accidents to a minimum through contest participation, plants showed this alarming increase in lost time and in the frequency and severity of injuries, (7.12 in 1947 and .70 in 1946), to their workers. It is problematical as to how their rates compare with those of unreported plants.

Inter-plant competition produces commendable results in most cases and it is most important that more and more plants should become a part of this competition. It is important that inter-change of ideas promoting greater safety during working hours should be stressed between members of the SOGES and the other segments of the grain handling and processing industry. It is much more difficult for the individual superintendent to lick the problems that cause accidents but a pooling of ideas and experiences can help to turn in good results and safety progress.

The figures presented tell frankly and conclusively that efforts must be accelerated to cut accident losses or the spectre of unsafe and hazardous conditions will haunt the industry. Preventable accidents result in severe injuries and heavy costs; they can be prevented and steps for their prevention should be taken now.

(Suggestions, ideas, and practices for better plant safety should be sent to Oscar W. Olsen, SOGES Safety Committee Chairman, Globe Elevator Division, F. H. Peavey & Co., Duluth, Minn. DO YOUR PART.)

1947 SOGES SAFETY CONTEST RECAP

As designated at the annual meeting of the Society of Grain Elevator Superintendents at Indianapolis, the winners of the Safety Contest were as follows:

CLASS I (over 250,000 man hours worked) — Trophy to Ralston Purina Company, Kansas City, Mo., William H. Kamp, Superintendent. 256,269 man hours worked—2 lost time accidents, 28 lost time days—Frequency 7.80, Severity .11.

CLASS II (100,000 to 249,000 man hours worked) — Trophy to Midland Flour Milling Company, Kansas City, Mo., R. K. Jenkins, Superintendent. 225,579 man hours worked—8 lost time accidents,

18 lost time days—Frequency 35.46, Severity .08.

CLASS III (60,000 to 99,999 man hours worked)—Trophies to:

The Quaker Oats Company, Akron, Ohio, Lewis Inks, Superintendent. 64,740 man hours worked—No lost time accidents;

Delphos Grain Milling Company, Delphos, Ohio, Walter J. Suever, Superintendent. 63,792 man hours worked—No lost time accidents; and

Port of New York Authority, Brooklyn, N. Y., George A. Cole, Superintendent. 60,062 man hours worked—No lost time accidents.

CLASS IV (30,000 to 59,999 man hours worked)—Trophies to:

Farmers Grain Dealers Association of Iowa, Des Moines, Iowa, Dunkin A. Welte, Superintendent. 55,549 man hours worked—No lost time accidents;

Van Dusen Harrington, Interstate Elevator, Minneapolis, Minn., Perry H. Wheeler, Superintendent. 54,972 man hours worked—No lost time accidents;

Terminal Grain Corporation, Sioux City, Iowa, H. L. Heinrikson, Superintendent. 39,176 man hours worked—No lost time accidents;

Rosenbaum Bros., I. C. Elevator, Omaha, Neb., John T. Goetzinger, Superintendent. 39,133 man hours worked—No lost time accidents; and

Enid Elevator Corporation, Enid, Okla., Ralph E. Garber, Superintendent. 33,396 man hours worked—No lost time accidents.

CLASS V (less than 30,000 man hours worked)—Trophies to:

Anheuser-Busch Grain Elevator, Springfield, Mo., C. Wallace Clark, Superintendent. 15,204 man hours worked—No lost time accidents; and

Scouler Bishop Grain Company, Kansas City, Mo., Hugh King, Superintendent. 13,364 man hours worked—No lost time accidents.



ACCIDENT SUMMARY — 1947

Key Number	Man Hours Worked	Lost Time Accidents	No. of Lost Time Days	Frequency Rate	Severity Rate
CLASS I (over 250,000 man hours worked)					
K-26	256,269	2	28	7.80	.11
C-23	416,186	8	45	19.2	.11
C-2	907,303	20	10719	22.04	11.81
C-105	261,744	7	12075	26.7	46.13
X-71	419,749	31	280	73.85	.67

CLASS II (100,000 to 249,999 man hours worked)					
K-88	225,579	8	18	35.46	.08
D-22	111,414	4	34	35.90	.31
F-10	107,265	4	57	37.29	.53
F-20	174,189	12	81	68.89	.47
G-52	125,029	12	425	95.98	33.99

CLASS III (60,000 to 99,999 man hours worked)					
A-50	64,740	0	0	0	0
X-122	63,792	0	0	0	0
X-99	60,062	0	0	0	0
E-58	94,089	2	8	21.25	.09
W-64	80,071	2	50	24.98	.62
H-84	70,548	3	6102	42.52	86.49
W-63	81,396	6	32	73.71	.39

CLASS IV (30,000 to 59,999 man hours worked)					
X-120	55,549	0	0	0	0
M-37	54,972	0	0	0	0
X-92	39,176	0	0	0	0
O-31	39,133	0	0	0	0
N-62	33,396	0	0	0	0
H-57	56,558	1	8	17.68	.14

K-1	53,516	1	9	18.69	.17
M-40	50,131	1	36	19.95	.72
P-14	49,143	1	23	20.35	.47
X-123	54,059	2	5	37.0	.92
M-41	40,838	2	49	48.97	1.20

CLASS V (Less than 30,000 man hours worked)					
X-81	15,204	0	0	0	0
X-125	13,364	0	0	0	0
M-39	29,092	1	11	34.37	.38
D-3	27,294	1	2	36.64	.73
M-36	21,794	1	5	45.88	.23
C-66	17,365	1	30	57.58	1.73
M-25	26,814	2	39	74.59	1.46
M-38	20,679	2	11	96.72	.53
M-42	17,796	2	52	112.39	2.92

	Man Hours Worked	No. of Lost Time Accidents	No. of Lost Time Days
I	2,261,251	68	23,147
II	743,476	40	615
III	514,698	13	6102
IV	526,471	8	130
V	189,402	10	150
	4,235,298	139	30,144

1947	Comparison	1946
4,235,298	TOTAL MAN HOURS WORKED	4,137,762
139	TOTAL LOST TIME ACCIDENTS	125
30,144	TOTAL LOST TIME DAYS	2,895
32.58	FREQUENCY RATE	30.21
7.12	SEVERITY RATE	.70

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GOOD HOUSEKEEPING ELIMINATES FALLS

The majority of falls of workers on level surfaces are due to slipping of the foot, defective surfaces, slipping or breaking of tools, foot catching, and handling of objects. It is noted that falls on level surfaces are responsible for 49.5% of the number of compensated cases and for 30.9% of the deaths reported in New York State, for a period of three years, as classified by the New York State Department of Labor.

Good housekeeping will prevent many cases of injuries due to persons slipping or falling. When material is kept in suitable storage places and refuse properly disposed of, much will be done to eliminate such accidents.

It is highly important to keep all aisles and passageways clear and unobstructed and well lighted. To assist in this work many plants mark the aisles and forbid anything inside of, or projecting over, the borderline. These lines may be indicated by ordinary whitewash or white paint.

Hand tools, short lengths of pipe, and other round objects are often allowed to lie about where they form tripping or stumbling hazards. Tools not in actual use should be kept in a tool crib, in workmen's tool boxes, or other suitable places. Pieces of pipe should be kept in suitable racks provided for that purpose. Puddles and drippings of oil or water make the floor slippery and should be wiped up, or when necessary sand should be sprinkled around temporarily to absorb what cannot be taken up with rags or waste. Of course, every effort should be made to prevent the dripping or accumulation of oil off the floor.

Sometimes wood floors become slippery, particularly about machines in woodworking plants. Such floors should be covered, and the places where the machine operators stand while working should be conditioned with finely ribbed rubber, abrasive surfaced metal plates, anti-slip tile, a coat of bitumastic or asphalt, or with other material that will provide

FOR BETTER OPERATIONS

satisfactory durability and sufficiently high frictional resistance.

Floors should be kept in good repair, free from any unevenness, or rough or slippery conditions which may cause a person to trip, or slip and fall. Splintered floors are particularly dangerous and many serious injuries have been due to them. Keep your plant clean.—(Safety Engineering Dept., Kemper Insurance.)

ROOFING CHECK-UP

A careful examination of roof coverings on industrial buildings is advisable once a year. Even slight defects make roof coverings readily susceptible to wind damage. Cracked felts, blisters, buckles, rotted roof decks, loose edging strips—these and others may enable the wind to tear off large areas of roofing. Rain frequently accompanies heavy windstorms, causing serious wet-down of building contents. Good maintenance, often overlooked, will protect you against this common type of wind damage.

DON'T FLY OFF THE HANDLE

Recent studies by psychiatrists led them to the conclusion that nearly half the accidents that occurred were caused by the human weaknesses of not being able to control anger, vexation and worry. Strangely enough, they also found out that many accidents were caused by the person's desire to be nursed and pampered after an accident. However the greatest factor tending to raise the toll is the old American "grouchy" feeling. In European countries, the psychiatrists explain, most of the accidents among their workers are caused by a "revengeful" attitude.

FOR GREATER SAFETY

CONVEYOR OPENING PROTECTION

Previous announcements have been made of research and tests which show that it is practical to arrange high-velocity spray nozzles to prevent the passage of fire through conveyor openings in walls and floors. Thorough investigations and tests have now been completed, and detailed specifications are available for such systems.

Nozzles having a solid conical spray pattern are the most effective type, and must be so arranged that the entire opening is well covered with dense spray.

Conveyor openings in walls will usually require an independent system of nozzles on each side of the wall, to protect against fire on the other side. At a floor opening, only one system of nozzles, located above and arranged to discharge downward through the opening, is necessary.

For prompt operation, thermostats connected to automatic releases which will quickly open the water supply valve are recommended. Important considerations also include the adequacy and reliability of the water supply, and the location of the nozzles with respect to the opening and the material passing through on the conveyor.

Best results are obtained with a sheet metal or other non-cumbersome spray enclosure extending from the opening to the nozzles, thus producing a more effective counter-draft and greater cooling action. With enclosures, the greater the distance from the nozzle to the opening, the greater the cooling effect. However, the nozzles must not be located so far away that cooling cannot be maintained up to the opening.

Water spray protection at wall openings is not a substitute for, nor the equivalent of, standard fire doors. Also, it is not a substitute for stair or elevator enclosures.

The chief use of this new type of protection is confined to openings where fire doors in first-class fire walls or fire-resistant enclosures at floor openings ordinarily would be needed, but where such installations would not function effectively.

SAFETY and HUMAN ENGINEERING

In his fine book "A PROGRAM FOR PERSONNEL ADMINISTRATION", J. J. Evans, Jr., General Personnel Manager, Armstrong Cork Co., says: "To any objective observer, it should be clear that a large part of management's present troubles derives from the fact that a disproportionate amount of time and money has been spent on the study of technical developments as against the development of human resources and the study of human problems."

Our big problem in safety is getting people to do things the way we want them done — the *safe* way.

He says: "People do things well only because they take pride in their work and because they like their jobs, the conditions of working surroundings, their bosses, etc."

A Formula for a Safe Way

I hope to give you what might be called a formula to handle one phase of this complex problem, but before giving you that formula, I would like to prepare your minds to receive it by reading a few references pertaining to the trend of managerial thinking and potent thoughts bearing directly to the subject. Here is the first thought I gleaned from Carl Heyl's book "HOW TO CREATE JOB ENTHUSIASM": Speaking of the old "hard-bolied" type of bosses as compared with the present day types of foremen and supervisors, he says:

"In terms of practical business operation, this means that executives and foremen and others in positions of authority are having it borne in upon them with increasing force that to get work done in today's world calls for much less bossing and much more leadership than it did in the old days.

"But we need not rest our case upon compulsions. There is a second and stronger line of reasoning, and it would be valid even if our

economic world *were not* so radically different from what it was yesterday. It is simply this: Concern for human relations is good business. It has taken enlightened management some time to realize that this is so, and judging from their reactions, many people with executive authority must still be convinced."

"Thus, without for a moment having to take the view that a business enterprise is an eleemosynary institution whose first and only regard is the welfare of its employees, liberal management is gradually accepting vastly increased social responsibilities as a just and proper structure built upon the profit system. In the same way, liberal management is accepting the concept of increasing concern for human relations as something that pays in the long run.

Employee Should Want to Work

"Concern for human relations is good business because it translates itself into job enthusiasm on the part of employees. There is a tremendous opportunity for profit, as yet only partially realized, available to management in the idea of making people *want* to work rather than merely

giving them a chance to work or compelling them to work.

Discussing the dollars-and-cents advantages of good human relations, he says further:

"And while we are on the subject of dollars-and-cents advantage, consider also this: In recent years, there has been a great "frothing" about public relations. Whole libraries of books have been written on the subject, ponderous "brass hat" management gatherings have been held to discuss it, and whole new profession of experts has arisen to implement it. One good result of all the pother is that it has *impressed upon management* the simple fact that unhappy, disgruntled employees cannot be expected to present a good front to customers and the public. "An employee who is a "walking advertisement" for his company will act that way *only* if he is *enthusiastic* about his job." Further on in his book he says: "Employees are people. By and large management is *shockingly unmindful* of this very elementary idea!"

"Let us therefore always remember that behind the cards in the rack over the time clock are actual, living individual persons, every one of them with *pride* that can be hurt, nerves that can be jangled, hopes that can be raised, and ambitions that can be stirred."

Express Company's Views

"But the most important fact is that consideration for individuals, remembering that employees are people, embraces a whole host of *little* things — little things that loom large in the eyes of the workers at bench and desk and are too often forgotten by upper management engrossed in large concerns. It is the *piling up* of little things that confounds logic and confronts even the most *forehanded* planners with obstinate human resistance that will not be denied.

"For when all is said and done, management *does* function on a dif-



ferent intellectual plane from that of the worker, and things that would be accepted as *just* and *proper* by individuals in management if they were on the *receiving end* are not always accepted as reasonable and fair by employees, because background, education, and mental processes are different."

Heyl points out that many of the supervisors' and foremen's troubles stem from the fact that the employees under them have no chance to express their views regarding company policies. But he says:

"But an open-door philosophy can certainly be maintained; foremen and supervisors can be encouraged to sound out employees thinking about policies and to transmit to management what they find out without endangering individuals who may have voiced grievances; department heads and other executives can be encouraged to keep in touch with foremen and supervisors on this problem, so that channels of communication upward are kept open; employees can be urged to *write to*

the editor of their employee magazine; and the like."

Objectives Presented to Employees

Heyl speaks of the reverse procedure — i.e., transmitting orders and requests to employees. He says: "The second important part of proper telling is the transmitting of orders and requests to employees in such a way as to emphasize the benefits which will accrue to **them** if they comply. In this connection we can borrow a phrase from the jargon of advertising and sales-promotion men, and remember the so-called "plus one" of copy — the reader's self-interest. Thus, in analyzing some of his company's labor difficulties, the treasurer of one company remarked, "Our mistake was to present objectives as *good things to do* rather than to show *why it was good business* to do them!"

The point that should always be kept in mind is that, under our form of economy, the basis of discipline in *business* is the exact reverse of the basis of discipline in the *Army*. In an army, the emphasis is negative: soldiers are punished if they do not obey, and so they may often do what they are told because they do not like what is apt to happen to them if they refuse. In business, the *underlying force* is *positive*: People work for rewards and not to avoid punishment.

"There is hardly a management policy, decision, or act that cannot be advanced in terms of its direct benefit to employees. American business has, of course, long been a past master in the art of telling its story and telling it well. But the trouble is that it has concentrated the exercise of this art in the fields of selling and advertising. Only recently have alert managements been turning the same kinds of psychological guns upon labor-relations problems."

Heyl feels that orders and policies can be best transferred to employees through the supervisors, but explains that: "many companies, however, were shocked to find through surveys that supervisors and foremen were poorly versed in the details of company plans and poli-

cies which they were supposed to interpret to workers." He goes on to say: "Related to this idea, of course, is that of the proper selection of foremen in the first place, not, as one executive put it, to make the foremen 'out of food workmen who can *holler* the loudest, *swear* the strongest, and *threaten* the most.'"

Employees' Efforts

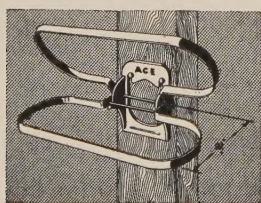
To quote again from Mr. Evans' book — "A Program for Personnel Administration", he brings out a very important point that has a direct bearing on what I am going to say later: "People do things well only because they *want* to. For short periods, perhaps, human effort *can* be regimented, legislated, forced against its will, but not over any great length of time. Men will remain enthusiastically associated with any project only so long as they have *respect* for its administration, *pride* in its accomplishments, and personal satisfaction from their *own individual* contributions to the group endeavor." Evans goes on to say:

"The day-by-day impression employees hold of management policy is a reflection of the conduct of the supervisor. Excellent *performance on a machine* is no criterion of a man's ability to lead and direct the work of others: yet how frequently *that* or straight seniority represents the basis of selection for a supervisory position! Just as frequently is the selectee told to "take over" without benefit of training. Business has been remiss in not devoting more time and attention to this widely recognized problem. It has been easier to apparently *throw up our hands* than to *roll up our sleeves* and do something about it."

Individual Not Mass Job

He closes his book with this challenge: "The objective of the '*men*' are fundamentally those of *management* and vice versa. It is a question of a general recognition of this fact. The problem is one of *distrust, suspicion*, and in some instances *actual hate* of one by the other. There must be created an honest desire to learn and understand and to weigh dispassionately the interests, the reason-

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726 Converse Building Chicago 6, Illinois

ing, the reactions of 'men' by management and management by 'men' in order that there may be a meeting of the minds and hearts, a getting together to work out the solutions to the problems threatening the future of the American Way of Life.

"It is an individual, not a mass job. It is already alarmingly late. It is a challenge to Personnel Administration." Note that he says: "It is an individual and not a mass job." I would like to emphasize that . . . mass action does defeat your purpose. Dr. Rogers Williams, in his book "The Human Frontier" says: ". . . each human being has a metabolic pattern which differs in some respects from that of all his fellows." Alexander Pope said: "The proper study of mankind is man." Ralph Waldo Emerson said: "Nature never rhymes her children nor makes two men alike." Albert Einstein says: "All that is valuable in human society depends upon the opportunity for development accorded to the individual."

I think that of all the references these great men have made to the individual that I like best is that quotation from INTRODUCTORY SOCIOLOGY by Messrs. J. L. Woodward and R. L. Southerland: "While we may talk about customs and traditions of a society we must not forget that societies are composed of human beings and that all behavior traditional or not is INDIVIDUAL BEHAVIOR." So my friends, your jobs as supervisors is not a job of dealing with your men enmasse but one of dealing with them as individuals.

In these preliminary remarks I have tried to convey to you these four points: 1. Management is becoming more human. 2. The supervisor should be given an opportunity to learn HUMAN ENGINEERING. 3. In the eyes of the worker, the supervisor is the company. 4. Your problem is one of handling individuals. So now let us turn to your job as supervisor and my formula for handling men:

Know Your Men

As supervisors, you are BUILDERS OF MEN. To build men you must KNOW men. To know men, you must STUDY men. Then you must WRITE DOWN what you LEARN. The success of your plan to deal with the individual will depend principally upon two things:—

1. the extent to which you learn each one's characteristics; 2. the thoroughness with which you plan to use what you learn.

I said you must write down what you learn. This is important. If you don't, you may get one person's characteristics mixed up with another's. We keep books on production, sales, mileage, accident costs and many other things but we don't keep books on men's habits, traits and other characteristics. This we must do because we are going to deal with our men and build them by word of mouth and these characteristics will be used as a basis for our conversation.

Mental Operation

Let us assume now that we want to talk with one of our men. What are the steps? First: When are we going to say it? Second: How are we going to say it? For this procedure I like to draw a parallel to the normal procedure of a surgeon. The only difference is that a surgeon operates physically while we operate mentally.

1. Case History — a surgeon must know all about the physical condi-

tion of the patient before he operates, his past illnesses or operations, his present physical stamina, etc.

2. Consultation: Discussion of the patient's condition with another surgeon to verify his diagnosis.

3. Physically fit himself: A surgeon would not attempt to operate if he were not in good physical condition himself — the patient's life depends upon it. And so must you be in good condition mentally before attempting to correct another's troubles — be calm, deliberate in your judgment, avoid hasty and ill-considered remarks.

4. Make the patient ready for the operation. In your case, get the man in the proper frame of mind to receive the constructive criticism you want to give him. Praise his good points and point out tactfully how he can further improve himself by eliminating wrong procedures or wrong thinking. A successful surgeon bides his time, except in cases of dire emergency, to make sure the patient is ready to undergo the operation, that his mental attitude is what it should be.

5. Know how to operate. Know what you want to accomplish and how best to proceed. Know the facts before you begin.

6. Know where to operate. Know where to put the finger on the trouble spot — don't plunge in blindly — you may defeat the very purpose you are striving for.

7. Be prepared for an emergency. Keep well-informed of conditions, so that if an emergency arises, you will be able to cope with the situation.

8. Post operative treatment. After making the necessary corrections, follow through to see if the patient is responding properly, let him know you are interested in his problem and are ready to give him further help.

9. Repeat operation. Sometimes it is necessary to repeat an operation, in cases where the patient stands a good chance of recovery. Some men require this second chance.

DUE TO MANY REQUESTS FOR BACK ISSUES OF GRAIN, THIS PUBLICATION'S BACK COPIES FILE IS NEAR DEPLETION. ANY DUPLICATES OR EXTRA COPIES (1936-1948) THAT YOU HAVE ON HAND AND CAN SEND TO US WILL HELP MATERIALLY. BE ASSURED THAT WE WILL BE DEEPLY APPRECIATIVE.

TO MAKE MONEY - - -

WATCH YOUR BELT TENSION

FOR BOTH FLAT AND V-BELTS the right tension gives long life to belting and bearings, cuts power costs and speeds production. The right tension is the least that will carry the top load on the drive without too much slip.

The Golden Mean. Too much tension speeds wear on belt and bearings. Loose belts slip at high loads, wasting power and limiting production of the driven machine.

All belts stretch in service, so a fixed-pulley drive that isn't adjusted every now and then will soon grow too loose unless the belt is set too tight at the start. That's why self-adjusting pivoted motor drive is increasingly popular. This drive uses part of the motor's weight to maintain constant correct belt tension despite belt stretching.

Pivot Drives. With the floor-mount pivoted-motor base Fig. 1, the motor swings up and down on the two pivoted arms. It can be moved out on the pivoted arms to increase belt tension by unbalancing more of its weight.

Secondly, the pivot shaft also can be moved in and out by screws to obtain the proper center-to-center distance for the given belt.

Of course, when the motor is moved out on its supporting arms to increase tension, the pivot shaft must be moved toward the driven machine an equal amount to keep the pulley-center distance constant.

How Installed. When pivoted drive is first installed, the adjustments are made by cut-and-try until the motor base is about level and the tension just enough to prevent excessive slipping at top load. Thereafter the motor will settle gradually to maintain tension as the belt stretches.

On fairly long drives, or with medium-length drives using inferior belting, the belt stretch may eventually

allowed the motor to sag well below horizontal. Then you have to adjust it again.

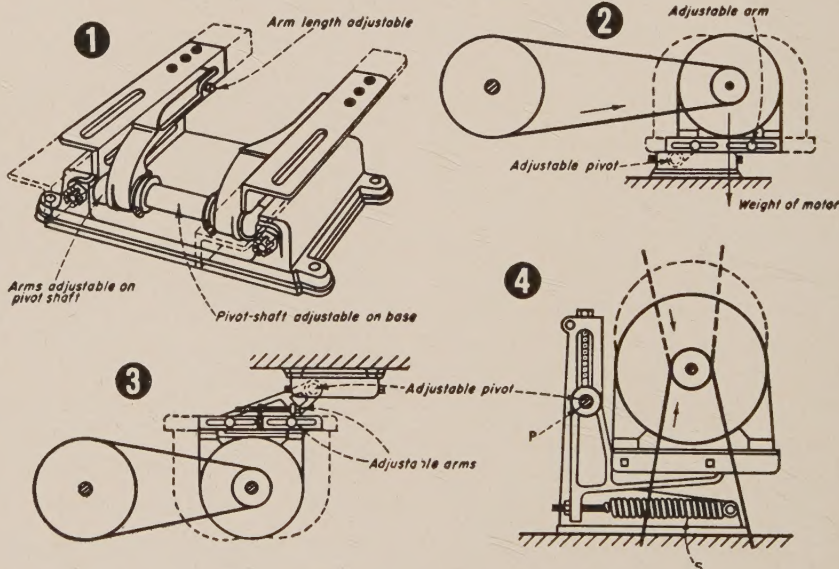
When possible, set the drive up so the tight side of the belt is toward the pivot shaft, as in Fig. 2, rather than away from it. Then the reaction of the motor automatically tightens the belt as the load increases. That makes it practicable to set the motor closer to the pivots so the belt is under less than normal tension at light loads. The heavy tension is on only when needed to carry the load.

Ceiling Mounts. Pivoted mounts are specially made for ceiling mounting Fig. 3 and for vertical belts Fig. 4.

gets the advantage of the belt's weight in preventing slip. The corresponding lack of belt weight on the lower pulley tends to offset this except where the smaller (motor) pulley is on top.

In Fig. 4 the motor swings around the pivot shaft P. Two spiral springs, S, connected to the arm brackets, counter-balance the motor's weight.

When the motor pulley is above the driven pulley, the springs are adjusted to support motor weight plus necessary belt tension. With motor below the driven pulley, loosen the springs to support only that part of motor weight not needed for belt tension. To allow for variations in



1 PIVOTED BASE. 2 APPLIED TO HORIZONTAL DRIVE. 3 USED ON CEILING LINESHAFT APPLICATION. 4 FOR VERTICAL BELT DRIVES.

They are also made in special types for industrial internal-combustion engines, heavy duty oil-field pump drives and for textile machinery requirements. Where motors must be installed on the ceiling, or in other places hard to reach for frequent belt-tension adjustment, pivoted drives save a lot of trouble.

Vertical Belts. Vertical belts offer special problems. The upper pulley

original length of belt, and for stretch, adjust the pivot shaft P up and down by screws.

Ample Belts. Never select belts on the basis of horsepower alone; allow for motor starting torque. When in doubt, it is safer to overbelt than underbelt. The overloaded belt dies young, whereas, the oversized, underloaded belt lives a long and happy life.

Ample Sheaves and Pulley. Money is well spent for V-belt sheaves larger than normal to reduce belt flexing and thereby prolong belt life. Pulley diameter is also a factor with flat belts too, but, naturally, less so than is sheave diameter with the much thicker V-belts. Excessive tension is equally harmful for both types.

Follow motor manufacturer's pulley specifications wherever possible. Don't use minimum diameter pulleys unless necessary; they are for nameplate rating of motor without overload. Every motor has a standard pulley size that will give a satisfactory drive. In many cases, it will pay to use a larger pulley than standard, *but never go to a smaller pulley if you can avoid it.* (Power Transmission Council, Inc.)

FREIGHT RECORD FOR RAILROADS

American railroads in the first half of 1948 carried more tons of freight per train than ever before and without any decrease in the average speed, the Association of American Railroads announced today.

At the same time, freight train

performance per hour also established a new high record.

The average load of freight per train in the first six months of 1948 was 1,153 tons, an increase of seven tons above the previous high record for the year 1947 when the average was 1,146 tons. It also was an increase of 14 tons above that in 1944, the peak war year. In 1929, the average was only 804 tons.

Tons of freight moved one mile for each hour of freight train operation averaged 18,212 in the first six months this year, the highest on record, compared with 10,580 ton-miles in the year 1929 and 7,303 in 1920.

This performance was made possible by improved operating methods, larger and more efficient locomotives, better freight cars, improved signaling and other devices, heavier loading of freight cars, and getting more cars in the average train. The number of freight cars in a train averaged 53.7 in the first half of 1948, the highest on record. In 1944, the average was 53 and in 1947 it was 52.9. The average speed of freight trains in the six

months' period in 1948 was the same as that for the two previous years but was higher than in 1942, 1943, 1944 and 1945.

SUPPLY OF FREIGHT CARS UP

According to a report by the Association of American Railroads the aggregate of new freight cars put into service by the railroads during the first seven months of 1948 was 14,175 or about 32% above the number of cars retired. New cars put into service totalled 58,892 with 44,717 old cars retired. In the same period of 1947 there were 26,174 new cars installed and 34,383 retired.

GRAIN CARLOADING

Carloadings of grain and grain products for the first 35 weeks of 1948 showed a decrease in volume as compared to like periods in 1946 and 1947.

1948—1,607,879 freight cars loaded

1947—1,877,356 freight cars loaded

1946—1,651,489 freight cars loaded

As shown by the above figures, loadings for 1948 are down 269,477 cars or 14.4% from 1947 and down 43,610 cars or 2.6% from 1946.

AUTOMATIC SPRINKLERS

There is only one device for the general protection of buildings that both detects and extinguishes a fire.

That device is the automatic sprinkler.

It is one of the greatest inventions in the art of fire fighting because of its automatic action, and has done more to preserve property and protect life from the danger of fire than any other single factor.

The Factory Mutual Companies early saw the possibilities of sprinklers and from the beginning have actively urged the greater use of this form of protection.

The record shows the remarkable effectiveness of automatic sprinklers in controlling fires. Just before automatic sprinklers were introduced about 1875, fire damage in the best industrial plants averaged about \$3000 a year for every million dollars of in-

surance. Today it is less than one-tenth that amount, or under \$300 a year. In more recent decades, an increasing use of fire resistive construction also has helped to improve fire safety, but automatic sprinklers are still the best type of protection where construction or building contents are burnable.

Public fire departments look upon automatic sprinkler systems as one of their most effective allies in controlling fire damage. Seventy-five percent of the fires which open sprinklers in Factory Mutual plants are extinguished or controlled, largely by the sprinklers, so quickly that it is not necessary to call the fire department. Even in the twenty-five per cent where the department is called, most of the fires are being held in control by sprinklers when the rapidly responding firemen arrive.

Automatic sprinkler heads cover all parts of a property. They are silent "firemen" than stand their ground in the midst of smoke and heat. They are ready to go into action as soon as the fire develops to the point where it becomes dangerous. Some alarm devices can detect fire more quickly than sprinklers, but none can extinguish fire. Sprinklers, well maintained and supplied with water at good pressure, always operate as soon as needed.

Through the operation of sprinkler systems, fire departments are constantly being saved the necessity of fighting costly difficult fires, because such fires do not develop in properly maintained sprinklered properties. Property owners further enjoy a freedom from the destructive consequences of bad fires, and building occupants and workers are safer.

LARGE GRAIN ELEVATORS

FOUNDED ON CREOSOTED PILES

THE PRACTICE of founding permanent buildings and other durable structures on creosoted timber piles has expanded continuously during the last two decades. Today piles creosoted for various types of foundations constitute one of the most important uses of treated forest products aggregating millions of feet annually.

The use of creosoted timber piles capped with masonry footings and completely buried in the earth is by no means new, but perhaps antedates any other type of permanent piles except timber which is submerged perpetually. Important structures built on the Southern Pacific Railway more than fifty

years ago were founded on pressure creosoted timber piles where cut-offs were above the ground water level or where subsequent subsidence was anticipated. The three structures illustrated are typical examples of important foundations supported by creosoted timber piles cut off above, and in some cases many feet above, the line of permanent saturation.

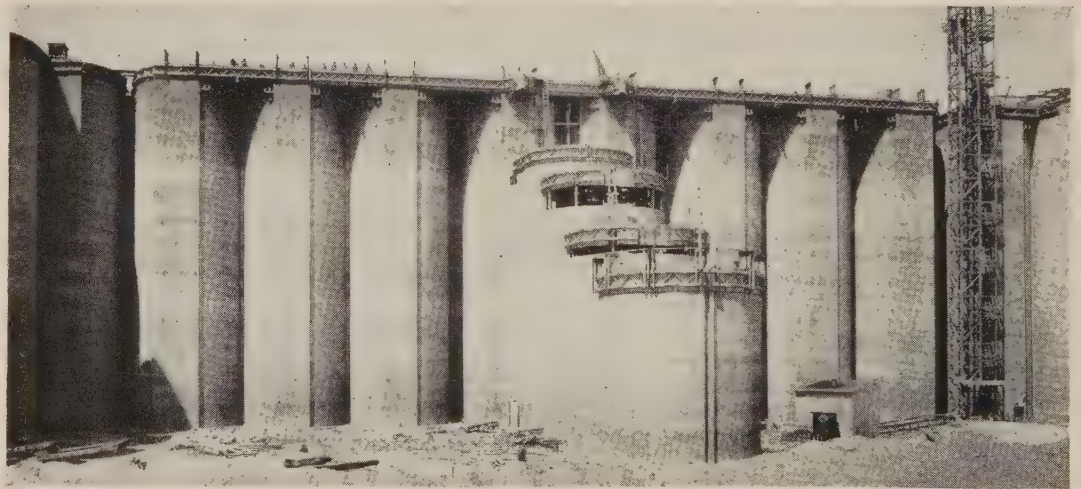
Elevator A of the Atchison, Topeka and Santa Fe Railway System at Argentine, Kansas, has capacity for 10,529,400 bushels of grain and is the largest single grain storage unit west of the Mississippi River. It contains 212 circular reinforced concrete storage tanks, 153 inter-

stitial bins, and 63 workhouse bins. In a single 8-hour day 200 carloads of grain are loaded or unloaded by the normal working equipment.

The first portion of this elevator was built in 1905 on a foundation of 2,078 creosoted piles. A second addition followed in 1913 on 4,175 similarly treated piles, and another in 1915 on 6,688 piles. A new headhouse was built in 1925 on 2,700 piles, and finally in 1931 a fourth storage addition was erected on 7,501 piles. In all, 23,142 piles, totaling 650,000 lin. ft., were driven for these foundations and are in service today, some of them 43 years old.

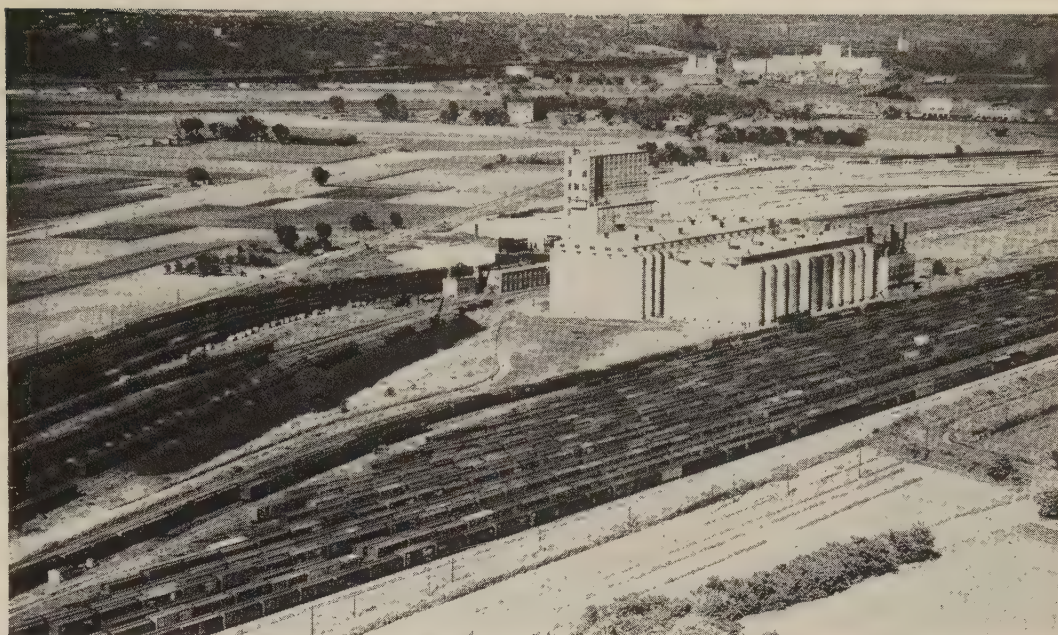
The largest grain elevator in the

The Atlantic Coast's largest Grain Elevator, Cargill, Inc., at Albany, N. Y. This structure has grain storage capacity for 13,500,000 bushels.



Another large elevator, Cargill, Inc., at Memphis, Tenn. Storage capacity is rated at 1,500,000 bushels of grain.

Nearly 2000 cars of grain await unloading at Elevator A of the Sante Fe System at Argentine, Kansas. During the peak of the wheat harvest this year an all-time record of 4578 cars in three days carried grain to this elevator for storage.



world, built at Albany, N. Y., in 1937, is accessible to barges coming through the New York State Canal and is located to load ocean freighters coming up the Hudson River from New York. It has a capacity of 13,500,000 bushels of grain and can load ships at the rate of 160,000 bushels in an 8-hour day. Approximately 7,400 creosoted timber piles, driven for design loads of 30 tons, were used in the foundations of this reinforced concrete elevator. The complete structure contains 104 cylindrical bins with 50 additional pockets formed in their interstices.

The public grain elevator at Memphis, Tenn., built in 1937, has a capacity of 1,500,000 bushels of grain and is located on the Illinois Central Railroad tracks near Wolf River, a navigable tributary of the Mississippi River. Grain is handled between trucks, trains and water carriers. The grain storage provided by the series of circular bins is augmented by large housed-in hoppers built in high earth embankments on two sides of the structure. The hoppers are concrete lined, housed in by corrugated metal sheets and covered by a hanging roof, all

of which required stable foundations in a high earth fill. The corrugated walls at the ends of the hoppers and the columns supporting the hanging roof are founded on creosoted timber piles. In all 4,300 feet of southern pine piles were used, varying in length from 40 to 75 ft.

All piles used in these three elevators were pressure treated with coal-tar creosote in accordance with specifications of the American Wood-Preservers' Association.

(From Wood Preserving News)

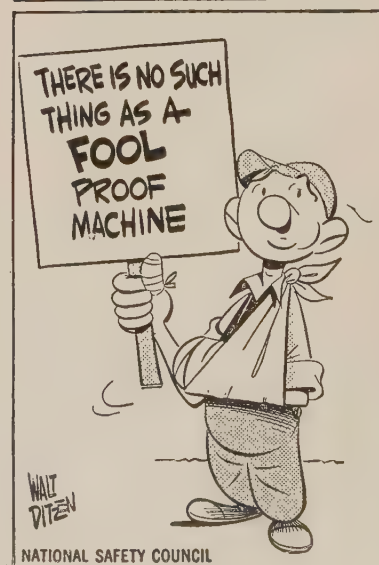
Leading causes for fire in American business and industry are:

1. Smoking and matches
2. Electrical: power consuming appliances, faulty wiring and equipment, misuse of
3. Defective or overheated heating equipment, chimneys
4. Sparks on roofs
5. Lightning
6. Flammable liquids

The four fire safety rules recommended for business and industry are:

1. Regular inspection for fire hazards
2. Fire-safety education for employees and executives
3. Adequate supply of approved fire extinguishers for protection against fire.
4. Employee fire brigades to fight fires as soon as they occur.

HAP HAZARD



FIRE INSURANCE—FIRE PREVENTION

IT'S OUR BUSINESS

The fact that you have allotted this time in the midst of your busy program for the discussion of fire protection and fire prevention is indicative of your interest in this very vital subject. As I scan through your program, I notice that practically all of the subjects discussed, or to be discussed, are on ways to more

efficiently handle the products so that you may operate at a profit for your employer. We now come to the point in your program where our discussion will be the spending of some of this profit in the hopes that by so spending, fire may be prevented and the plant be enabled to continue to operate profitably.

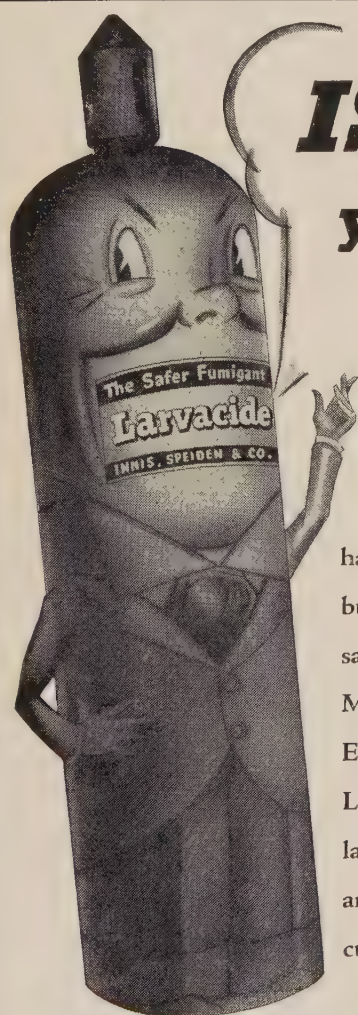
Says Charles E. Harbin
Underwriters Grain Association
(Before SOGES Annual Meeting,
Indianapolis.)

The Insurance Business

To digress from fire prevention for a moment, it seems appropriate that I tell you just a little about the insurance business. Contrary to popular belief, it is no different than any other business in that it must operate at a profit if it is to survive and be of service. The branch of the business which has been responsible for the insuring of terminal elevators has not operated at a profit during a long period of years and the question as to whether this branch of the business could survive or not has been a very serious one. The Underwriters Grain Association is composed of 80 individual fire insurance member companies. These companies are not obligated to support the Underwriters Grain Association. They do so of their own free will and if supporting the Association proves to be unprofitable, or undesirable, they are privileged to resign their membership. After the disastrous experience in 1946, several companies did this and many others threatened to resign or reduce their participation, leaving us in a position where we did not know whether we could continue to operate. The only basis on which operations could be continued was that rates be drastically increased, and an increased insurance rate was put into effect on July 1, 1947 with the promise that July 1, 1948 a revision in the rating schedule for terminal elevators would be put into use. With the increase in rate we were able to continue in operation.

New Schedule Not a Radical Change

The revised or new schedule has been the subject of much discussion and considerable misapprehension. The provisions in this schedule have been discussed with your employers and with the brokers handling the insurance for them, and I will tell you here and now that it does not



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When you use
LARVACIDE, you get control
plus! **LARVACIDE** not only
handles granary weevil and rice weevil,
but is also deadly to lesser grain borer,
saw-toothed grain beetle, flat grain beetle,
Mediterranean flour moth and grain mites.
Easily applied when receiving or turning,
LARVACIDE's kill includes egglife and
larvae. There's no explosion or fire hazard,
and **LARVACIDE**'s tear-gas warning
cuts accident risk.

KILLS RATS TOO! **LARVACIDE** at low economical dosage drives them out on the open floor to die, where they may be swept up without carcass nuisance! Fast airing—overnight exposure.

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in handy 1-lb. bottles, 12 to wooden case,
or in cylinders from 25 to 180 lbs.

radically change the existing rates. It is merely a means of obtaining the rate that is necessary to enable us to continue to serve you as we have in the past. So much for the insurance and the rate end of the insurance business.

As many of you know, it is my privilege to be a member of the Dust Explosion Committee of the National Fire Protection Association. At our convention last year, there was considerable discussion regarding proposed changes in the N.F.P.A. code for the prevention of dust explosions. I am sorry to report that practically no change has been made in this code and that the code which was submitted only last Tuesday for adoption by the N.F.P.A. membership is very little different than that which you have had in the past. While submission and adoption of the code does not close the door, it will make further revisions more difficult. It is my recommendation to you as a group that a committee of those interested in dust control in an elevator be formed, possibly by individual chapter. I would recommend that this committee carefully review the N.F.P.A. code and that criticisms, changes and additions be tabulated and submitted to a central committee who will, as a representative from your organization, present it to the committee of the N.F.P.A. By group action I believe the recommendations of this Society would have careful consideration and a good chance of adoption, inasmuch as the main difficulty at the present time has been lack of interest and that is the lack of the kind of interest that would have prepared a definite proposal for change,

SOYBEAN CROP EXPECTED TO SET RECORD

According to a recent market summary by the Grain Branch, Production and Marketing Administration, a record supply of soybeans for the 1948-49 season is indicated by crop prospects at the first of August. The 1948 soybean crop is set at 205 million bushels, a 13% increase over the 181 million bushels of 1947 and 2% above the 1946 record yield.

MILLS AND ELEVATORS PICTURED IN KANSAS CITY

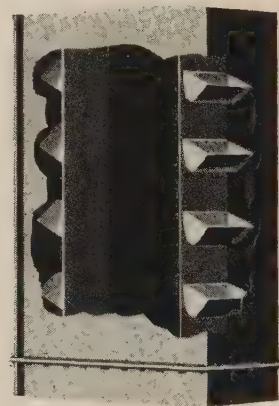
A group of pictures, believed to be the only collection of its kind shown in a terminal market in America, is on display in the secretary's office of the Kansas City Board of Trade. The group comprises pictures of all the regular mills and elevators in this market, a total of 23. The wall panel measures 18 x 41½ feet while each of the pictures is an actual photograph measuring 20 x 16 inches. Many of the photos are aerial views.

GROVER MEYER BACK ON JOB

Grover C. Meyer, Kansas City Power & Light Co., Kansas City, Mo., is back on the job after a severe illness of many weeks. Grover, well-known to the members of the SOGES, has been the Associates' entertainment chairman for several years. The illness which kept Grover bedridden started last May and cost him some forty pounds in 20 days.



Now you can get
PROMPT shipment
on our famous
Inner-Locked Belting
FOR CONVEYING & ELEVATING



For the first time in several years prompt shipment can be made on Imperial Beltings. Improved production methods and greater availability of raw materials make this possible.

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All Imperial Belting is made from the very best 37½ oz. tight-woven duck . . . with a tensile strength exceeding 700 lbs. per inch of width. The plies are double-stitched with our Inner-Locked construction which permanently prevents ply separation . . . then scientifically impregnated to obtain the exact qualities needed for each type of service.

For over 35 years leading industries have found Imperial Belting "costs less to use."

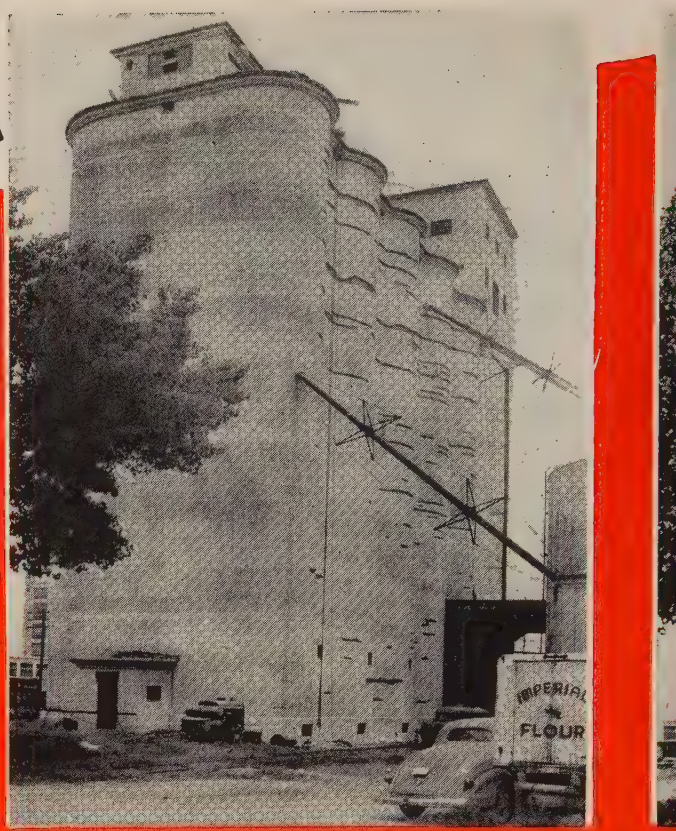
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Owners and operators of grain elevators, including many of the largest in the country, have discovered an unfailing "Fountain Of Youth" for their properties. The time-tested, weather-tested B. J. Many process of repairing and weather proofing elevator structures.

This "Fountain Of Youth" is not a temporary "tonic" . . . not a flimsy patch-up job that has to be done over at your expense . . . not a beauty treatment that merely dolls up the surface of an elevator, providing but slight protection against the elements.

No. When B. J. Many completes a job of repairing and weather proofing it's a finished

job . . . a thorough job through and through. All disintegrated concrete is chipped out. Cavities are filled with Gunitite reinforced with mesh anchor bolted in place . . . a lasting job. Then comes the protective coating applied in four thick applications; remains flexible.

A B. J. Many job costs more, it's worth more, lasts longer . . . and that's what counts. Cheap materials and faulty workmanship represent false economy.

Write for complete details. Protect your properties. Securely safeguard that "golden" grain.

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Baltimore Life Building, Baltimore, Maryland—1101 Francis
Palms Building, Detroit 26, Michigan—3723 Grand Central
Terminal, New York 17, New York—Mr. H. W. Webb-
Peplow, 500 Rona Street, Interlaken, New Jersey.

AUTHORIZED AGENTS: Pioneer Sand and Gravel Company,
Inc., 901 Fairview Avenue, North, Seattle 11, Washington—
Northland Machinery Supply Co., Ltd., 203 Hardisty Street,
Fort William, Ontario—Northland Machinery Supply Co.,
Ltd., Winnipeg, Manitoba—Asphalt Services, Limited, 366
Adelaide Street, West, Toronto, Ontario.

MAN LIFTS — THEIR HAZARDS CAN BE ELIMINATED

MAN LIFTS

1. In the operation and use of man lifts the principal hazards with possibilities of severe injuries are as follows

a. The rider may be carried over the top.

b. He may be unable to make an emergency stop.

c. He may jump on or off after the step has passed the floor.

d. His head or shoulder may strike floor openings.

e. The landings may be inaccessible to him because of power failure and belt stoppage.

f. Parts of the man lift may fail or operate unsafely.

Factor of Safety

2. Man lifts, and all parts, should be designed, constructed and erected to provide a factor of safety of not less than six (6); but preferably eight (8). The supporting structure should be designed and braced so that there will be not more than $\frac{1}{4}$ inch deflection in any direction under normal operation.

3. The driving mechanism and head pulley of the man lift should be set on a substantial foundation of steel or concrete. All equipment should be securely braced at top, bottom and intermediate landings.

Steps

4. Steps should be placed at right angles to the belt, not less than 16 feet apart. They should be not less than 12 inches deep, measured from the face of the belt to the far edge of the step, nor less than 12 inches wide.

5. The steps should be designed to carry safely a load of not less than 200 pounds each. Steps should be numbered so that when repairs are necessary the defective step can be easily identified.

6. The step should be well constructed with a non-skid surface. A

ACKNOWLEDGMENT

This Industrial data sheet was revised by A. M. Baltzer, safety engineer, Industrial Division, National Safety Council, and by Lawrence Meeker, Arcady Farms Milling Company, and chairman of the Data Sheet Committee, Food Section, assisted by the following special committee: P. L. Bachman, General Mills Inc.; P. H. Christensen, Van Dusen-Harrington Company; D. G. Hansen International Milling Company; H. S. Lee, The Travelers Insurance Company; George H. Steel, Ralston-Purina Company; Clarence W. Turning, Society of Grain Elevator Superintendents.

soft wood, such as pine, is satisfactory.

7. If it is necessary to remove a step for repair, or to remove it permanently, the hand holds on both sides of that step should likewise be removed, to prevent anyone's grasping a hand hold under which there is no step.

8. The bolts fastening the step to the framework, as well as the bolts fastening the framework to the belt, should be tight and fastened with lockwashers.

Rails, Belts and Motors

9. Excessively worn tracks should be replaced, and at no time should excess slack be permitted.

10. To prevent buckling or bending of the rails, the entire man lift should be suspended from the top and should not be supported at each floor. There should, however, be braces on each floor to hold the guide rails in place. This type of construction will permit expansion and contraction without buckling.

11. Lifts in excess of 10 feet are not recommended, but where they are found necessary, the belt should be not less than 16 inches in width.

12. The man lift machinery should be equipped with a bottom take up pulley to keep the belt at the required tension and to prevent the belt from slipping on the pulleys.

Hand Holds

13. There are two types of hand holds in general use: the cup type and the open type. The cup type tends to prevent the rider from grasping the wrong handle. If the open type is in use this hazard can be practically eliminated by installing a flap at each hand hold so that the flap drops over the hand hold when it follows a step on the up side or is ahead of a step on the down side.

14. The hand holds should be painted a light, conspicuous color, either orange or yellow. Stenciled signs above the hand holds are suggested as follows:

FACE BELT
HOLD ON
WITH
BOTH HANDS } $1\frac{1}{2}$ " letters

or

TO STOP
PULL ROPE
UP (on up side) } $1\frac{1}{2}$ " letters

TO STOP
PULL ROPE
DOWN (on downside) } $\frac{3}{4}$ " letters

15. Hand holds with at least 9 inches of gripping surface and not less than 2 inches of clearance from the belt should be provided and securely attached to the belt.

16. Each step and hand hold should have a corresponding hand hold or step. The hand holds should be not less than 50 inches nor more than 55 inches above the step.

Landings

17. Since the tail pulley is above the floor level, the bottom landing should be provided with steps and a platform on the upside so that the level of the platform is at the same level as the step as it completes the semi-circle around the bottom of the tail pulley. There should be no platform on the down side; the floor itself should serve as a landing area.

18. The bottom of the man lift should not extend into a pit of any

kind nor below the lowest operating floor.

19. A platform 2½ feet above the floor level should be provided on the top floor (18 inches above primary safety stop). This platform will permit an employee to step off the man lift if he rides past the top landing and the automatic switch fails. It can also serve as a platform for servicing the motor and other driving mechanism at the top of the elevator. Steps should be provided to this platform so that the man lift will not be used to reach it.

20. At no point where a rider steps either on or off a man lift should the overhead clearance be less than 9 feet. The minimum clearance between the head pulley and the roof or other obstruction should be 4 feet.

21. The landing space should be made of or covered with non-skid material similar in abrasive quality to that used on the man lift steps.

Floor Openings and Shear Plates

22. Standard guard rails (42 inches) and toe boards (6 inches high) should be provided around all floor openings. Such a railing should be so placed as to allow a landing space not less than 2 feet wide at each landing.

23. Each floor should be provided with openings ~~not less than~~ 30 inches wide, nor more than 36 inches, on both the up and the down side of the man lift. The sides of the openings should be semi-circular and the front of the openings parallel to the belt.

24. Clearance between the center of the front of the steps and the floor openings should be a minimum of 12 inches and a maximum of 14 inches.

25. Openings in rails or guards at landings should be provided with a maze or staggered opening, or self-swinging and closing gate or rail opening away from the man lift.

26. At all floor openings on the up side and at all projections within 3 feet of the plane of the belt, funneled-shaped guards should be

installed, set flush with the opening or projection, extending downward 2 feet. These funnel guards should be metal plate of not less than No. 16 U. S. Standard gauge and the bottom should have a smooth rounded edge of not less than ½ inch diameter. The funnel guards should be set at an angle of not less than sixty degrees (60°) from the horizontal.

Brakes

27. The brake should be an electric magnetic spring set type, of ample size, and of the renewal shoe type. It should be so designed that when the power is shut off the brake will be applied, and should be wired from the main power circuit between the motor and the mechanical-electrical safety control. As an extra safety measure, a free wheeling clutch can be installed to prevent the man lift from running backwards. (This clutch does not prevent free running forward.)

28. The brake used must be capable of quickly stopping the man lift. A travel of 6 inches after application of the brake should be maximum. The magnetic type actuated by a spring which is held open by a magnet is preferred. If this type is used, it should be tested frequently to guard against failure.

MANLIFTS

1. Only authorized persons should ride on manlifts.
2. Only one man should ride on a step.
3. Carry only tools or small objects which can be completely concealed in a trouser pocket or in the special sling or box provided.
4. Grasp the handhold before placing your foot on the step.
5. Always face the belt and grasp the handhold firmly.
6. Step on or off only at floor levels.
7. Keep the landing space open.
8. Report any defect or irregularity of operation in the manlift.
9. If the manlift stops, be sure everyone is in the clear before starting it.

Safety Devices

29. For stopping either ascending or descending, the manlift should be controlled by the rider at all floors and between floors, by a rope located on the manlift opening side. It should be so designed that the man lift may be stopped when the rope is pulled in the direction of the belt travel. There should be no locking device on the control rope. This control rope should be a sash cord with an inner core of wire to prevent any stretching or shrinking.

30. A mechanical-electrical device should be provided which will automatically shut off the main power supply to the motor and will apply an electric brake in the event that the rider fails to alight at the top landing. The man lift should be so arranged that it cannot be started again except from above the upper landing. No automatic device for returning the operating circuit should be permitted.

31. The automatic safety switch or switches should be located immediately above the top floor landing, not over 12 inches above the floor. They should be in such a position that the person resetting them has a clear view of both the up and down side of the elevator shaft. In no event should they be so located that a person standing on the step could reset them. Proper installation should prevent anyone from starting the man lift from the lower floors after the safety switch has been thrown.

32. Except in special locations, there should be no starting switch which can be actuated from every floor. In no event should this starting switch be so arranged that it can start the man lift after the man lift has been stopped by the automatic safety switch.

33. To prevent the rider from being carried over the top of the man lift, a mechanical-electrical secondary safety control should be located on the top operating floor, set to operate when the belt has traveled 6 inches beyond the point of operation of the primary mechanical-electrical safety device, and set to



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act in case the mechanical-electrical safety device fails.

Inspections

34. The most important part of the man lift safety program is a periodical inspection, made at least once a week. Every man lift in the plant should be tested and inspected. This inspection should be made even though the man lift is used only occasionally. If any hazard is discovered, the man lift should be put out of operation *immediately* and should not be used until repaired.

35. The weekly inspection should cover, but not necessarily be limited to, the following items:

Steps	Hand holds
Step bolts	Driving mechanism
Rails	Landing floors
Rollers or slides	Guard rails
Belts	Brakes and brake ropes
Pulleys	Electrical switches
Motors	Relays and lights
	Signaling equipment

36. It is desirable to dismantle the man lift once in three years. *Any part which is defective or which shows excessive wear should be replaced immediately.* The dismantling should be complete and should include the head pulley with all gears. Wear on the taper pin and worm gear shaft can be detected on most types of lifts only by dismantling. When it is necessary to dismantle the worm and worm gear housing, particular attention should be given to reassembling for proper alignment of the parts.

37. Daily inspections should be made of the safety mechanism to see that it operates freely and that no dirt or grease accumulates and blocks it.

General Precautions

38. Nothing that cannot be carried in a sling or pouch should be carried by the rider on the man lift.

39. The man lift is not intended for and should not be used for the moving of merchandise and material. However, in some mills where no other means of transportation is available, the man lift may be used, but only after guards have been posted or barricades provided at every floor level. The customary warning light is not sufficient.

40. The maximum speed of a man lift belt should not exceed 80 feet per minute, or that allowed by state or local requirements, and should be uniform throughout the plant. In mills where there is a great deal of traffic on the lift, a speed of not over 60 feet per minute is recommended.

41. Floors should be numbered in large figures in full view of riders both ascending and descending.

42. Signs carrying instructions for use of the man lift should be displayed at each landing. Electric or illuminated signs should be installed indicating that the man lift is intended for the use of authorized employees only.

43. An electrical sign should be conspicuously placed above the top floor. This sign should carry the words "GET OFF" and should be in operation at all times the man lift is in operation. Adequate lights should be provided at every landing.

44. Employees, particularly new employees, should be carefully instructed in the safe use of the man lift and all employees cautioned to report immediately any defects or irregularity in operation of the man lift and safety devices.

STALEY WINS 1947 REPORT AWARD

The forty-second annual report of A. E. Staley Manufacturing Company, Decatur, Ill., has been judged the best 1947 report to stockholders and employees in the milling indus-

try by the Financial World Annual Report Survey. A bronze "Oscar of Industry" will be presented to Staley's in New York on October 21. In the milling category, General Mills, Inc., Minneapolis, was second and Standard Milling Co., Chicago, was third.

OCTOBER-DECEMBER 1948 GRAIN ALLOCATIONS

October-December grain export allocations totaling 3,717,900 long tons (145,201,000 bushels), including 107,581,000 bushels of wheat and flour (in wheat equivalent) and 37,620,000 bushels of coarse grains were announced today by the U. S. Department of Agriculture. This program has been approved by the Department of Commerce Inter-Agency Advisory Committee on Requirements.

The July-December 1948 program for wheat and flour totals 6,717,000 long tons (250,800,000 bushels in wheat equivalent). In July-December 1947 the shipments of wheat and flour totaled 6,832,000 long tons (255,100,000 bushels in wheat equivalent). The July-December 1948 total does not include wheat and flour to be shipped to the Western Hemisphere and the Philippines under general license (no export licenses required) which went into effect August 27.

Allocations for the countries in the ECA program (including ECA countries which finance their own purchases) account for 69 percent of the October-December total announced today, of which nearly 38 percent is for the Occupied Zones of Germany. Another 9 percent of the grain allocated will move to the U. S. Occupied Zone of Japan and Korea. The remainder, 22 percent, will go to other countries (Egypt, India, Iraq, Liberia, Lebanon, Saudi Arabia, Tangier, and Unspecified).

Beginning December 1 under the October-December program announced today, all shipments of wheat will be made through commercial channels, with the exception of wheat going to Austria, Greece, the Occupied Zones, and Trieste, which will continue to be procured by the Production and Marketing Administration.

EUROPEAN CROPS HURT

Western European crops have been heavily damaged by gales and torrential rains and it seems more than likely that crop forecasts will be severely

reduced. The harvest has been held up and the quality of crops is rapidly deteriorating.

CANADIAN WHEAT CROP ESTIMATED AT 361 MILLION BUSHELS

A forecast by the three wheat pool organizations of Canada indicates a wheat crop this year of at least 361 million bushels. These figures are subject to revision when harvesting progresses in the late sections of Saskatchewan and Alberta. The Canadian wheat crop production last year was 319 million bushels. The estimates by provinces are as follows:

Saskatchewan	188,765,000 bu.
Alberta	115,000,000 bu.
Manitoba	57,500,000 bu.

BUNGE BUYS RED RIVER MILLING CO.

The Bunge Corp. has taken possession of the business and personnel of the Red River Milling Co., Fergus Falls, Minn. The purchase of the Red River plant marks the first venture into the milling business of the United States by the Bunge Corp. Elevator capacity obtained in the purchase adds 175,000 bushels to the present 12,100,000 total storage capacity owned by the Bunge interests.

SOY BEAN GRITS MADE INTO FOOD

A food made mostly of soy bean grits has been developed by industrial research and is being offered as a partial substitute for meat. The first markets for the food were found among hungry people abroad. Then an American municipal health department recommended it, and domestic orders poured in. Vitamins, calcium and iron are added to the grits—the meal left after the oil is steamed out of the beans. Onion powder and other seasonings give it flavor.

OAKLEY ADDITION STARTED

Construction was recently started on a 250,000 bushel elevator for the Oakley Elevator Co., Oakley, Kansas. When completed the elevator will be the largest of its kind on the Union Pacific railroad between Oakley and the Colorado line.

ONE-MILLION BUSHEL WICHITA ADDITION

With present capacity of 2-million bushels, the Wichita Terminal Elevator Co. is adding another 1-million bushel structure which is expected to be completed by late fall. Completion of this new unit will bring the Kansas market storage capacity to 17,200,000 bushels.

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DUST CONTROL AS APPLIED TO TERMINAL ELEVATORS

Ernest F. Granzow
The Day Company

It isn't necessary to spend much time telling superintendents about the need for dust control in terminal grain elevators. You all know that every time grain is agitated dust results — you also know that grain is agitated in elevators from the time it is received until the time it is shipped resulting dust in all parts of the house.

Whenever grain is conveyed or spouted into an enclosure such as a receiving hopper, bin, elevator boot, box car (when loading out) etc., pressure is created within the enclosure and the displaced dust laden air rushes out wherever possible. Every bushel of grain entering an enclosure displaces an equal volume of dust laden air.

Efficient dust control (please note I used the phrase **efficient dust control**) pays for itself in many ways. In the first place by holding the concentration of dust down explosive hazards are minimized. By preventing dust laden air from polluting the atmosphere of elevators working conditions are greatly improved. This results in greater efficiency per man hour which quickly pays dividends in these days of high labor costs.

Labor Relations Improved

Grain elevators, if properly cleaned up, can attract higher class workmen at equivalent wage levels again resulting in greater efficiency per man hour, less absenteeism and better labor relations and I believe most of you will agree that better labor relations are worthy of serious thought on today's labor market. A happy, satisfied workman breathing clean air in an up-to-date going industry is a more efficient and energetic individual.

The next important benefit is the reduction in housekeeping costs.

Without dust control dust continues to build up on beams, equipment, window sills and other ledges until it actually hangs in festoons all over the house. Your sweepers may endeavor to keep the floors reasonably clean but that is only part of the answer.

Unless adequate dust control systems have been installed many labor hours must be expended in sweeping and cleaning to keep the elevator in reasonable operating condition. Another benefit is the lowering of machinery maintenance expenses. Keeping the dust out of bearings, motors and other types of equipment prolongs their life and minimizes maintenance and replacement costs. Elevators have an investment in machinery of many thousands of dollars. In my opinion it is but good business to protect this investment by keeping your elevator clean and orderly.

From the above you can see that a clean, workable terminal grain elevator —

1. Improves working conditions.
2. Increases worker efficiency.
3. Cuts labor costs.
4. Attracts higher grade workmen.
5. Cuts absenteeism.
6. Improves labor relations.
7. Cuts maintenance costs by increasing machinery life.

Dust Control Needs Engineering

Unfortunately at times, dust control has received a black eye because of an inefficient system which has been designed and installed by those inexperienced in this highly specialized field. The matter of dust control in terminal elevators is

a specific engineering problem and what will give efficient results in one elevator may be valueless in another — each and every job must be studied and engineered to answer the particular problems pertaining to that house.

In the design of dust control for terminal elevators there are a few basic aims the designing engineer must keep in mind at all times.

1. A thorough study should first be made of the normal grain handling and distributing equipment. Much can be done to minimize the amount of air required to control dust by proper design of spouts, conveyors, hoods, bins, etc. Actually many benefits could be gained if the original designers of elevators would incorporate dust control in their original thinking. Dust hoods, for instance, could be designed and built right into such items as belt loading spouts, belt discharge spouts, trippers, etc. What a grand opportunity to design the ultimate in dust control.

In considering dust control for an elevator which has been in operation for several years the first item to be considered is again the regular grain handling equipment. It is folly to spend good money for dust control unless the spouts, legs, bins, etc., are all in good repair and reasonably tight.

This fact was brought forcibly to my attention a few months ago. We received an inquiry for dust control from a rather large mill in the east so we stopped in to make a survey. We were ushered to one of the upper floors where the condition was the worst and found dust on the floor in places many inches deep. This particular floor was full of screw conveyors with loose tops and in some cases entire top sections were gone. Most of the spouts had

burlap bags tied around them (supposedly to prevent spillage) to cover worn holes in the spouting. It was impossible to see more than about 20 feet in any direction. Perhaps we should have been complimented by the fact that they thought all they needed was dust control. We refused to even make a survey — instead we discussed the maintenance problem with management relative to reconditioning their equipment before considering dust control. We would then come in and make the survey for dust control.

2. The dust must be caught at the source. The whole purpose of dust control is lost if the dust is allowed to pollute the general atmosphere before trying to effect control. It has been advocated by some to install large fans at one end of a storage tunnel, for instance, to pull out the dust. This means the dust must travel through the tunnel depositing the dust on all machinery and ledges. Finally what is still floating will be exhausted. This type of engineering cannot be recommended or approved.

3. It is important to handle just enough air to control the dust condition and no more — every excess cubic foot of air handled utilizes excess horsepower which in turn wastes dollars.

4. All hoods should be as tight as possible and the open area into the hood should be held to a minimum — the smaller the opening the less the air volume required to control the condition. On the other hand, however, enough air must be allowed to enter so as to maintain minimum velocities in the suction pipes. Otherwise material will settle and plug the suction lines. Hoods should also be designed with sufficient mouth area so as to prevent the picking up of whole grain.

5. Wherever possible the suction air travel should be in the same direction as the natural flow of material and air. Less work has to be done on the air to control it if the natural flow does not have to be altered.

6. So design the piping systems to eliminate as much air friction as

possible. Maintain sufficient velocities to keep the pipes clean but no more. Excess pipe velocities again wastes power.

7. Make the system as automatic as possible and practical. If there are a great number of valves and gadgets for the operator to worry about they will be neglected and the system will then not function as designed.

8. So locate the dust bin for easy dust disposal.

9. Last, but by no means least, select the fan and dust separating equipment for efficient, economical and practical operation. As you know it is possible, and in certain cases desirable, to use filter equipment, that will separate 100% of the dust. For most terminal elevators this is not practical, however, as it increases the original and maintenance costs. Most terminal houses are located in industrial areas along railroad sidings where an efficient cyclone type of separator is the most practical type to use.

From the above you can see that there are many design factors to keep in mind and the proper engineering of dust control systems is not a job for those inexperienced in this field.

Dust Creation Points

In general, terminal elevator dust control systems should take care of the dust at the following points of creation.

In the first place, let us consider the track shed — where grain is received and shipped. Whether you use power shovels or a car dumper unit for receiving proper dust control units can and are being installed to do a practical and efficient job. In this case the dust is deposited back into the receiving pits so it can be weighed in with the grain. This is necessary and in some states is the law.

If power shovels are used for unloading the fan equipment is usually placed below the track shed roof with the collector on the roof. If car dumper units are used sufficient headroom is usually available to place all of the equipment within

the track shed only discharging the exhaust air to the outside. So as to minimize the volume of air necessary, in either case, properly designed baffles should be placed under the grating to partially close off some of the grill area. These baffles allow spilled grain to be deposited into the track hoppers and still serve their function of cutting down on the total free area.

The tunnel under the track shed is taken care of by putting hoods with suction at the points where the grain flows from the receiving hoppers on to the moving belts. Here again proper hoods must be designed to catch the dust with the least amount of air.

In the tunnels under the storage bins every belt loader should have a suction hood with blast gate. Only enough air is figured to handle the number of belt loaders to be used at one time. In some cases this may be only one while in other cases as many as six at once depending, of course, on the amount of blending to be done. These gates are opened by the operators as he opens the rack and pinion gates allowing the grain to flow onto the belt so does not create an operating problem.

The basement of the workhouse and the boot pit is a very dusty area unless properly controlled. One of the worst dust creators in any elevator is the boot of legs. Not only is air displaced by grain being spouted into the boot but the empty buckets becoming full of grain displace additional air so a decided pressure is built up within the boot. Consideration must also be given as to the distance the grain is spouted. If spouted for any distance the traveling grain induces secondary air which also increases the pressure. Our experience tells us that some of these published formulas giving the proper amount of air for various size legs and belt speeds are worthless because of additional conditions which must be considered.

Belt discharges should have a combination top and bottom hood — the top hood to relieve pressure and pick up float dust while the bottom hood

catches chaff, etc. carried around the pulley by the belt. Here again a properly designed combination hood can be very effective and still require a minimum amount of air.

Cleaning machines are usually located on the first floor or a cleaner floor. These machines, of course, have their own fans and discharge into cyclone type collectors. The tailings from these cyclones are usually picked up by one of the dust control systems so that this refuse lands in the dust bin where it belongs.

The tripper unit, in the gallery over the storage, is a bad dust creator. This is nicely handled by what is known as the Day Tripper Assembly. A suction line runs parallel to the tripper travel and the full length of the gallery. This line has a closed suction connection at each tripper stop. When the tripper operator locates the tripper for discharging he makes the simple connection between the tripper and the suction line and then opens the gate. Suction is thereby put on all dust creat-

ing points of the tripper including the top and bottom of the belt and the spouts to the bins.

The suction hoods surround the discharge points of the two or three spouts from trippers to bins. Thus the pressure created within the bin forces the dust out the opening where the suction keeps this dust from polluting the gallery air.

Those bins within the house where the pressures cannot be relieved by the tripper units should be connected into the suction systems. Otherwise when materials are spouted into these bins pressures within will force dust into the workhouse atmosphere.

Gravity Ventilators

In some instances it is practical to use gravity ventilators for relieving pressures. For instance, rather than to use powered suction on the elevator leg heads we recommend the use of rather large area roof ventilators. In case of any explosion within the leg the pressure is relieved through these ventilators and no harm is done. Garners can also be gravity vented with a large pressure balancing duct between the top of the scale hopper and the top of the garner. As the grain flows from the garner into the scale the pressure produced in the scale hoppers is relieved through this duct into the garner where an equal partial vacuum is created by the grain flowing out of the garner. In this manner the conditions are equalized. The garner is then vented through the roof terminating in a gravity ventilator.

Below the scale is usually a turn-head and in nine out of ten cases this is a dust producing point. This is controlled with a circular hood and suction.

When mentioning the various parts of the elevator I have not mentioned suction type floor sweeps which are an important part of any dust control system. These sweeps with tight fitting doors are conveniently located throughout the elevator so that the sweepers usually do not have to sweep more than about 25 feet in any direction. These

are connected into the regular suction systems and consume very little power because only a few are used simultaneously and then only for short periods of time. The sweepings from an area are usually swept into a pile in front of a floor sweep. The door is then opened and the sweepings are carried away. The whole grain is trapped out and saved ahead of the fan while the balance is deposited in the dust bin.

Disposition of Dust

After all dust points have been determined and before the piping and number of systems can be laid out the designing engineer must know how the operator plans to dispose of the collected dust.

In many cases the dust is shipped out in carloads. In these cases the best procedure is to erect a dust bin outside of the elevator structure. This bin should be high enough to allow a blower type dust loader to be used. This fan unit draws the air for conveying from the car so as not to create a dust nuisance.

In other cases the dust may be pneumatically conveyed many feet to a feed mill, etc.

After locating the sources of suction and the disposal point then the systems are engineered to make the most efficient layout and consume the least power.

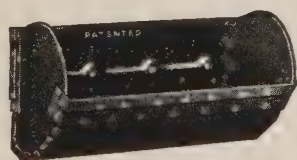
From the above you can see there is a practical answer for all dust points so that when efficient dust control is installed the elevator is a safe, clean and efficient plant in which to operate.

When contemplating the installation of dust control you superintendents should insist on

1. Sound engineering by those experienced in the design of dust control systems for elevators.

2. The best in equipment — the fans and dust separators are the heart of any dust control system — these should be designed for the work to be done.

3. A guarantee of performance stated in suction at various hoods measured in inches of water gauge by a manometer.



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4. That the engineer and contractor supply with their bid a list of at least ten successful dust control jobs engineered and installed in grain elevators.

5. That they specify each and every point to which they are to apply suction.

6. That the job be complete. It is poor economics to install half a job. The dust created in the balance of the elevator will filter into the clean portion and the result will be unsatisfactory.

It has been our aim in this paper to give you in a general way what, in our opinion, is required for proper dust control in terminal grain elevators. We of The Day Company desire to work closely with you superintendents as we feel by working together the ultimate in efficient dust control can be reached. We solicit your comments, criticisms, and suggestions and will welcome your stopping in at our plants or offices at any time to discuss your problems — your dust problems are our problems.

RINGWALD JOINS BUNGE

James W. Ringwald who recently represented the Kansas Elevator Co. in Kansas, has joined the Bunge Corp. in an assistant managerial capacity in the Bunge grain and elevator division. Ringwald who is widely known in the grain industry was associated with the Cargill Grain Co. before joining the Kansas Elevator Co.

A BUNDLE FOR BUELENS

Joy Ann Buelens greeted her parents, Mr. and Mrs. Emil Buelens, and the rest of the world on August 16. Joy Ann's proud paternal parent is Edible Sales Manager for The Glidden Company in Chicago, and a member of the Chicago SOGES Chapter.

DAY COMPANY OPENS NORTHEASTERN OFFICE

A new plant to serve the industry with dust control, pneumatic conveying and related milling equipment has been established at 1097 Genesee Street, Buffalo, N. Y., by

The Day Company of Minneapolis. Operations will be under the supervision of E. W. Anderson, Plant Manager.

The new Buffalo plant will serve the entire northeastern area of the United States, and enable The Day Company to offer better and faster service to their customers with substantial savings in freight charges.

Many Day products will be fabricated at Buffalo, while others will be shipped knocked down and assembled as needed. Complete service for assembly, installations and maintenance will be provided.

ROCKWELL NAMED MANAGER

John H. Rockwell has been named by Cargill, Inc., as manager of the terminal branch office at Omaha, according to an announcement by E. E. Kelm, vice-president in charge of the grain division of the company at Minneapolis. Vincent A. Lake, former manager, has taken an extended leave of absence because of ill health.

ADD TO HUTCHINSON STORAGE

Hutchinson, Kansas, with two new projects under way, will have storage capacity of 18,370,000 bushels. Present terminal capacity is 15,175,000 bushels with construction now under way for 950,000 bushel additional storage by the Collingwood Grain Co. and a new contract let by Security Elevator Co. for a 455,000 bushel addition to their elevator.

THANK YOU, MR. KROLOFF

Recently I received a copy of "Grain" and enjoyed reading it very much. In fact, I read it from cover to cover, and enclosed you will find a check for \$2.00 covering a years subscription.

In June of 1947, we completed the first concrete grain elevator between Los Angeles, and Clovis, N.M. Here in Phoenix, it is considered a terminal house. It is a 260,000 bu. house however, and I suppose comparatively speaking, it would be a coun-

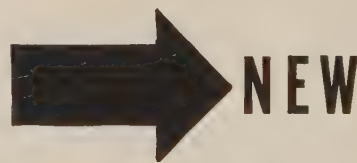
try loading house in your district. My experience as an Elevator Superintendent is limited to the year and a half that our house has been completed. I have had a number of years in the grain and seed business, but none of this experience embraced running an elevator. However, I am learning fast, and the hard way. I would appreciate your sending me some information as to costs and procedure in making application to SOGES. I know there is so much that I can learn from this great organization. There are times when I need information of a technical nature that I can't get out here because there is no one in this country that knows the technical end of elevator operation.

Sincerely yours,
ALLIED GRAIN CO.
Phoenix, Ariz.
H. M. Kroloff
Elevator Sup't.

WESTLING DIES

Arvid A. Westling, 58, superintendent of the Concrete Terminal Elevator in Minneapolis for 18 years, passed away Sept. 4 after a long illness.

Mr. Westling had been engaged in the grain business for 35 years and before coming to the Concrete had been the superintendent of the Spaulding terminal elevator at Warren, Minn.



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CHICAGO CHAPTER HOSTED BY CENTRAL SOYA COMPANY

September 18th will be a day long remembered by those members of the SOGES Chicago Chapter who spent the day at the Central Soya Company, Inc., plant at Gibson City, Illinois. Despite the fact that the tour of the plant was made on a Saturday when operations were halted, feed production and storage facilities were clearly explained by the company's competent staff. Mc-Millen Feeds constitute a major op-

eration in Central Soya Company's activities for the manufacture of a complete line of concentrates for feeding livestock and poultry.

The Chicago members were guests of the company for luncheon following the morning tour of the storage bins and the afternoon was spent to examination and explanation of the production units. This plant at Gibson City is modernized in all respects and the visitors were afforded an opportunity to see the new truck dump in its initial job.

This surprisingly was a load of soybeans driven in from Mississippi. An article describing the 3 million bushel elevator and plant will be featured in GRAIN in a future issue.


NEWS FROM MINNEAPOLIS

Grain harvests in this area were early this season, receipts in the Minneapolis market reached new highs and our elevator space for weeks has been pinched to the limit. The congestion of railroad facilities here was critical in September but we are over the hump now and our elevator superintendents are beginning to relax from the extreme tension of an unusually busy season.

Some of the Supers were able to get away from the pressure of everyday business to partake in the opening of the duck hunting season but no reports have been received of "bags to brag about" until Vic Champlin returned from Lake Christina with a one-day limit of canvasbacks. The pheasant hunters are out in the fields for the opening this week-end. A handful of us were left around to attend a thrilling football game which a well-qualified Michigan team won from a strong and highly spirited Minnesota team.

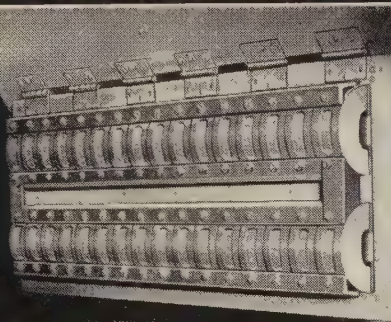
The first meeting of the season for the Minneapolis Chapter of SOGES was held at Freddie's Cafe on Tuesday evening, October 5th, and the record attendance included, among other guests, Henry Onstad of James Stewart Construction Co., for years an active member of the Chgo. Chapter. Frank Dennis, who was also formerly a member of the Chicago Chapter but is now associated with A-D-M in Minneapolis, met with us for the first time.

Guy Anderson, who for years has been actively interested in the affairs of the Minneapolis Chapter, was suddenly taken by death on September 21st. He was born in December, 1887, at Eau Claire, Wis., for some time was superintendent of the Gould Elevator in Minneapolis, and following more than twenty years association in sales service with the W. S. Nott Company he and Bob Crane established

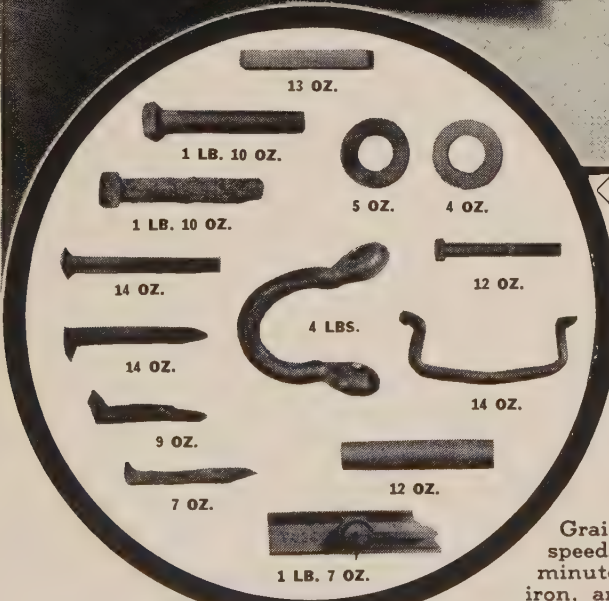


NON-ELECTRIC PERMANENT MAGNETS

Take Fast Belt Speeds in Stride!



This iron was removed from material traveling 850 ft. per minute. 96% tramp iron removal was recorded.



Remove 95% - 100% TRAMP IRON

Grain on belts moving at speeds up to 1400 ft. per minute is cleaned of tramp iron, and subsequent explosions are eliminated by Eriez

Non-Electric Permanent Magnets. Grain elevator operators working with Eriez engineers have successfully proven on-the-job, under all working conditions, that Eriez Magnets remove 95% to 100% tramp iron and eliminate the ever present danger of explosion and fire . . . Protect your personnel, property, and machinery by installing Eriez Permanent Magnetic Protection now! Write us today . . . we will send our nearest engineer to consult with you.

14 East 12th Street



ERIEZ MANUFACTURING CO.
Erie, Pennsylvania

the Anderson-Crane Company in 1944. Guy was well liked and admired by a host of friends, and the discontinuance of his regular attendance at our monthly meetings will be keenly felt.

Paul Koenig, A-D-M employee at Delmar #4 Elevator suffered a severely crushed left foot recently when, while working with the night crew, he attempted to cross over the coupling between boxcars while they were being pulled toward the unloading pit. It is apparent that in the darkness he accidentally stepped onto the drawbar behind the shoulder of the coupling just at the instant that the car-puller operator stopped pulling the cars. With the brakes being tightly set on the two head cars the rest of the cars rolled in to take up the slack in the couplings and Koenig's foot was trapped until his rescuers could move the cars forward to release him. He will probably suffer a lengthy period of disability but it is expected that his foot will be saved.

Recent flax crop reports indicate that the 1948 flaxseed production in the United States will be close to the 50 million bushel record harvest of 1943. More than 20 million bushels of this year's flax receipts have been acquired by Commodity Credit Corporation and the big question now in the minds of the flax crushers is what will become of the flax which is in the possession of this agency of the federal government.

HOW MUCH MONEY DO ANTI-FRICTION BEARINGS SAVE?

This question is commonly asked today by users of transmission equipment: "How much do anti-friction

BRUSHES RIGHT—FROM THE START— In Quality and Workmanship



WRITE
FOR
PRICES.



Separator Brushes

We can furnish separator brushes for any machine.

The STAR Warehouse Push Broom

This is the broom that is used by most large terminal elevators for sweeping grain out of box cars.

Brushes for Every Commercial and Industrial Use
FLOUR CITY BRUSH CO., Minneapolis 15, Minn.

bearings save as compared with plain sleeve bearings?"

The question is nicely answered for ball bearings by a report which I have before me. The report covers a total of seventy-three tests in the plants of a number of representative industries such as packing plants, saw mills, bakeries, textile mills, steam laundries, candy factories, steel mills, chemical plants, foundries, machine shops, etc.

The grand average of all the tests shows that each bearing saved \$13.62 per year in power, oil and labor. This means that the saving effected by the average ball bearing will pay for the bearing in 1.37 years. Or, stated in another way, the annual return on the investment is 73%.

Of course this does not mean that EVERY bearing in the world should be an anti-friction bearing. It does not prove that EVERY ball bearing will save \$13.62. Obviously, if the total cost per year of power, oil, and labor, is less than \$13.62 per bearing, it is impossible to save that much per bearing. Most of the manufacturers of today are honest. Certainly all of the successful ones are honest. They do not try to "put anything over" which they feel

might react against them in any way. Therefore, our best and most responsible manufacturers of anti-friction bearings do not advocate anti-friction bearings under all conditions. In fact, they frequently recommend the use of plain bearings, which, after all, is the proper spirit. By W. F. Schaphorst, M.E.

THIS MECHANICAL WORLD

"What little boy can tell me the meaning of the expression, 'The quick and the dead'?" asked the Sunday School teacher.

Walter raised his hand high. "Please, ma'am," he said, "the quick are the ones that get out of the way of automobiles, and the dead are the ones that don't."

On a dark and stormy night the trainman was signaling to the engineer when he dropped his lantern to the ground. Another man passing by tossed it back to him on top of a boxcar. In a few minutes the engineer came rushing up.

"Let's see you do that again!"

"Do what?"

"Jump from the ground to the top of that boxcar!"

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FOR PROCESSING PLANTS
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You've never seen a catalog that can "hold a candle" to the New Burrows Buyer's Guide. It's different. More compact. Easier to order from. A complete source of quality Grain and Seed Testing and Handling Equipment and Supplies . . . more than 500 items.

SEND FOR YOUR FREE COPY TODAY
Post card will do, or clip ad to your letterhead.
BURROWS EQUIPMENT COMPANY
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A QUARTER OF A CENTURY SERVING THE MILLING TRADE

Distributors of Wagner Electric Motors, Square D Control, Worthingham Pumps and Air Compressors, International Diesel Engines, Lovejoy Couplings, Weston Motors, Line Material Company's Transformers and line builders' supplies, as well as many other products.

Dust Tight equipment in stock for immediate shipment. Motors and Control for rent in emergency.

PORTER ELECTRIC CO., INC.

330 So. 6th St. Minneapolis 15, Minn.
Lincoln 7531
Electrical Equipment Coast to Coast

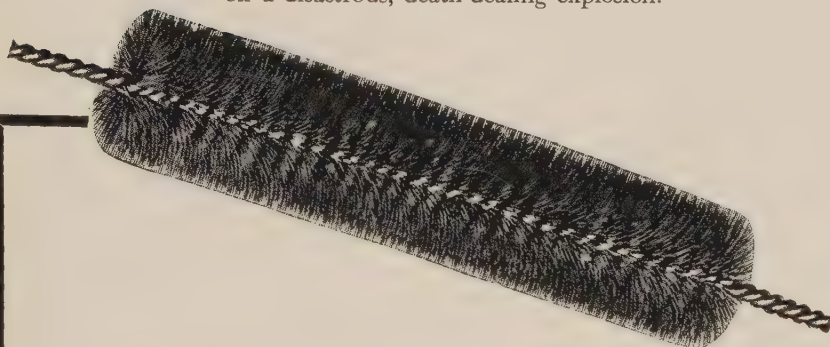


YOU HAVE A RIGHT TO BE *Scared* **STIFF** OF *Static!*

Listen to what David J. Price, an authority, has to say on the subject: "Static Electricity must be recognized as one of the prominent causes of dust explosions."

Another authority, C. J. Mitchell of the Mill Mutual Fire Prevention Bureau recently stated that dozens of dust explosions have been definitely traced to static as igniting factors.

Mill and elevator belts running over pulleys create hazardous static charges, often as high as 4500 volts. A lurking, unseen menace capable of touching off a disastrous, death-dealing explosion.



STATIC ELIMINATOR BRUSH "A Lightning Rod For Belts"

Made up of thousands of fine, durable brass wire bristles interwoven between two heavy copper wires, the Static Eliminator Brush gathers static, breaks it down and grounds it . . . renders it absolutely harmless.

Easily and quickly installed on any belt and approved by Mill

Mutual Fire Prevention Bureau when properly installed and grounded.

Heed the warnings of authorities. Protect life and property against dangerous static. Avail yourself of this low cost, urgently needed safety measure, now. Write for details, today.

Send, too, for the big, current Seedburo Catalogue, if you have not already received your copy. Packed from cover to cover with money saving values in modern equipment.

SEEDBURO EQUIPMENT CO.
726 Converse Bldg. Chicago 6, Ill.

ONE DOZEN WAYS TO BE AN UNSUCCESSFUL BOSS

In a recent issue of Commerce Magazine, the twelve most common reasons why business bosses fail as executives were listed by Burleigh B. Gardner, executive director of Social Research, Inc.

Those reasons as given were:

1. Too "detail-minded". Not being able to see the forest for the trees.
2. Irresponsibility. An attitude to take what comes along in life and not being concerned with changing things.
3. The unconscious desire to be something else besides being an executive.
4. The unconscious desire to be someone else.
5. The desire for speed. The "express train" complex that does not produce responsibility on the level of routine tasks.
6. The inability to make room for other people.
7. The resistance to authority.
8. Arrogance with subordinates.
9. Prejudices that interfere with judgment.
10. Overemphasis on work.
11. Gravitation toward self-destruction.
12. Mental ailments.

PRODUCTIVITY AND LABOR

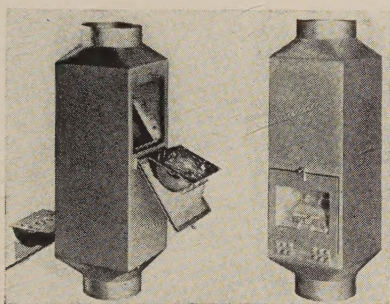
Productivity — unit out-put per manhour of factory labor—has not kept pace with recent rises in factory wages, or with total industrial production according to Industrial Press Service.

Measured against 1939, today's production seems remarkable. It is possible only because 61 million are working—mostly for the highest incomes in our history. Although industrial production is 72% above 1939, output per worker is up less than 10% in the last ten years. Industrial Press Service concludes that such conditions mean high prices.

MAGNETIC DUCT

A new magnetic separator (trade name — CESCO MAGNETIC DUCT) for the removal of tramp iron from air and gravity conveyed materials in process, is announced by the Columbia Engineering Service Co., 593 Market Street, San Francisco 5, California.

Cesco Magnetic Ducts provide a highly efficient method of removing large and small particles of tramp metal from the following air and gravity conveyed products: cotton, cotton seed, chemicals, grain, fibers, chopped alfalfa, and ensilage.



All units are fabricated from heavy gauge sheet metal and equipped with two Cesco, Heavy-Duty, angle type, Magnetic Plates, hinged for accessibility and ease of cleaning. They are equipped with non-electric permanent magnets and will not drop metal in event of a power failure.

Cesco Magnetic Ducts are manufactured in line sizes from 4" to 36" diameter inlets. Also available on order with special shaped inlets and outlets for direct connection to ducts and processing machinery.

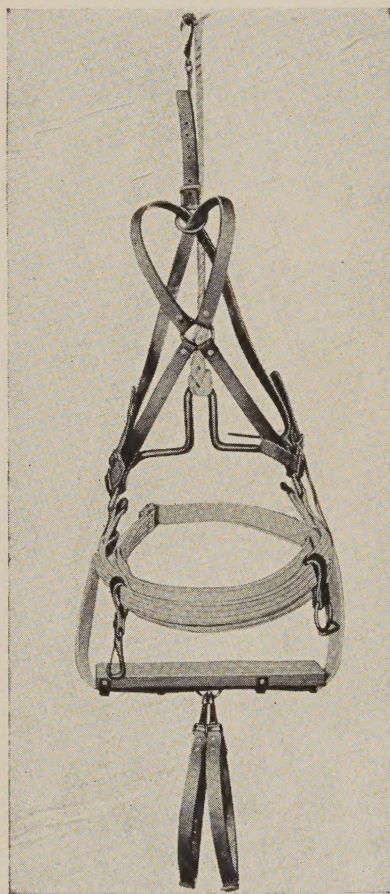
CALUMET ELEVATOR CUPS DELIVERED IN 7 DAYS

Despite the fast growing demand for Calumet Elevator Cups, stepped-up production facilities now enable the B. I. Weller Co. to rush through emergency orders in seven days. Non-rush orders for Calumet Cups are being filled within two weeks time or less.

INDUSTRIAL SAFETY SEAT

A Buckingham Industrial Safety Seat is your best insurance of life and limb on any hazardous job where the worker is suspended in the air. Any workman laboring under those conditions can perform his work with new and supreme confidence when he is provided with this new Safety Seat.

The danger of gas in stacks and tanks, accident, or illness on the job cannot cause a helpless worker to become fouled in a Buckingham Industrial Safety Seat or tumble from it.



The equipment includes a rigid seat that hooks into a saddle and cannot be disengaged while in use, making a comfortable and less confining seat from which to work. The chest harness, attached to a clamp well up on the supporting rope or cable, does not interfere with a workman's freedom of motion when he is wearing it. When used in rescue work, it holds a helpless person upright in the saddle, which supports

him while being removed from the danger area. It differs from other riggings used for similar purposes in the fact that when a workman has been lowered to the bottom of an enclosure, the supporting line can be slackened to permit his absolute freedom of action. — Buckingham Mfg. Co., Inc., 7-9 Travis Ave., Binghamton, N. Y.

MECHANIZED HAND TRUCK

The Tri-Truck, a new, mechanized, three-wheel hand truck, is announced by the Melooz Manufacturing Company, Los Angeles 11, Cal. The Tri-Truck is a ruggedly built hard wood and steel general duty hand truck, incorporating a revolutionary telescoping support which adjusts and locks instantly to the correct balance position for any type and weight of load, even with the load on the truck. The Tri-Truck itself balances and supports the load, so that inexperienced, older, or lighter men can do safe, efficient hand trucking work. The Tri-Truck provides leverage which more than doubles the trucker's strength for easy loading, gives safe, sure con-



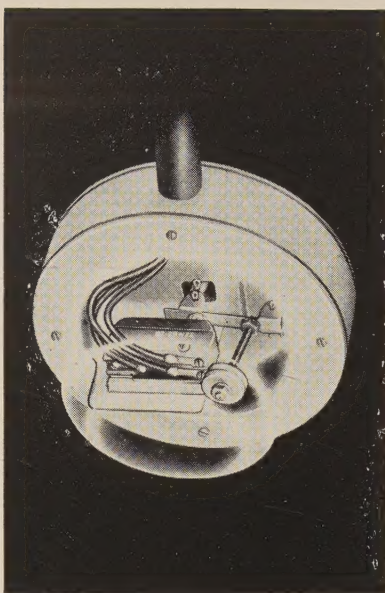
trol for unloading, and makes wheeling the load almost completely effortless.

The Tri-Truck stands 56 inches high and keeps the load balanced, even on rough, wet, or slippery surfaces, or if it strikes a floor obstruction, or if a collision occurs with another hand truck. A major cause of personnel injury and costly materials damage is thus virtually eliminated.

BANTAM BIN-DICATOR

The BIN-DICATOR COMPANY, Detroit 15, Michigan, announces a new, smaller BIN-DICATOR, called the BANTAM. The BANTAM BIN-DICATOR is designed for use on very small hoppers, spouts, chutes, and conveyors, and other applications where it is not possible to use the standard BIN-DICATOR because of its size. (The BANTAM is only $5\frac{3}{4}$ " overall diameter.)

Both standard and BANTAM BIN-DICATORS are diaphragm-operated switches in sealed housings which mount on the outside of bins, hoppers, screw conveyors, etc., and signal changes in material levels.



They will automatically start and stop filling and emptying equipment as the level of material reaches designated limits. (BIN-DICATORS are used successfully on bulk materials weighing 2 to 350 pounds per cubic foot. A special arrangement of the Micro Switch is provided in units to operate on the light materials.)

BIN-DICATORS are used extensively to stop machinery when feed chutes or elevator boots become clogged with material. Special models are available for hazardous locations, and for internal mounting inside thick walled or multiple compartment bins.

A new 20-page catalog giving detailed information and specifications of models available will be sent upon request to THE BIN-DICATOR COMPANY, Dept. N-1303, 14615 East Jefferson Avenue, Detroit 15, Michigan.

REMINDER

(Courtesy Mother Nature.)

THE TURN OF SUMMER into fall is Nature's most poignant reminder of another year gone by.

It's a reminder that should make you think, seriously, that you yourself are a year closer to the autumn of your own particular life.

What steps have you taken... what plan do you have... for comfort and security in those later years?

You *can* have a very definite plan—one that's automatic and *sure*.

If you're on a payroll, sign up to buy U. S. Savings Bonds on the Payroll Plan, through regular deductions from your wages or salary.

If you're not on a payroll but have a bank account, get in on the Bond-A-Month Plan for buying Bonds through regular charges to your checking account.

Do this . . . stick to it . . . and every fall will find you richer by even more than you've set aside. For your safe, sure investment in U. S. Savings will pay you back—in ten years—\$100 for every \$75 you've put in.

**AUTOMATIC SAVING
IS SURE SAVING—**

U.S. SAVINGS BONDS

Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.



SPROUT-WALDRON ISSUES "POINTERS TO PROFITS"

Sprout-Waldron is now distributing to the Flour and Feed Industry (General Processing Industry) its third issue of Pointers to Profits.

This four-page folder differs from the usual mailing piece inasmuch as it periodically offers newsy and practical tips to the trade both in regard to methods and equipment for modern processing needs.

You can get on the mailing list to receive periodic issues of "Pointers to Profits" by contacting Sprout, Waldron Co., Muncy, Pa.

Also available is an attractive 8-page bulletin describing how their Double Runner Attrition Mill is used in modern industry.

PULLEY CATALOG

A new catalog, "Continental Pulleys", is just off the press. This catalog contains latest prices and data on Transmission and Conveyor Pulleys of all types, Cast Iron, Steel, and Wing Type.

Copies of this catalog are available from the manufacturer—Address Industrial Division, GN, Continental Gin Company, Birmingham, Ala.

SUM-FUN

Telephone conversation between two law firms:

Telephone rings: "This is Perkins, Parkins, Peckam and Potts — Good morning."

"I want Mr. Perkins, please."

"Who is calling, please?"

"Mr. Pincham of Pincham, Pet-tam, Popum and Pogg."

"Just a moment, please. I'll give you Mr. Perkins' office."

"Hello, Mr. Perkins' office."

"Let me speak to Mr. Perkins."

"Mr. Perkins? I'll see if he's in. Who's calling please?"

"Mr. Pincham of Pincham, Pet-tam, Poppum and Pogg."

"Just a moment, Mr. Pincham. Here's Mr. Perkins. Mr. Pincham on the line, please."

"Just a moment, please, I have Mr. Pincham right here. Okay with Perkins, Parkins, Peckham and Potts. Mr. Pincham. Go ahead, please."

"Lo, Joe. How about lunch?"

"Okay."

* * *

He had never had such a tough time in his life.

First he got pyorrhea, followed by appendicitis. Just as he was recovering from these, he got pneumonia, followed by pulmonary phthisis and then eczema. Somehow he got over them just in time to get angina pectoris, followed by arteriosclerosis. All in all, he never knew how he had pulled through.

It was the hardest spelling test he'd ever had.

* * *

At the choir practice during the singing of a new anthem:

"Now, don't forget," said the choirmaster. "The tenors will sing alone until we come to 'the gates of hell,' then you all come in."

* * *

Sales Manager: "What's this big item on your expense account?"

Salesman: "My hotel bill."

Sales Manager: "Well, don't buy any more hotels."

The days are gone when you could peer through any one of a hundred knotholes and see a ball game free — they're using that kind of lumber to put into \$27,000 homes.

* * *

"Say, old man, I hope I haven't disturbed you by calling at this hour of the morning."

"Not at all. I had to get up to answer the phone, anyway."

* * *

Customer: "Can this coat be worn in the rain without damaging it?"

Fur Salesman: "Madam, did you ever see a skunk carrying an umbrella?"

* * *

Hubby went out with the boys one night, and before he realized it, the morning of the next day had dawned. He hesitated to go home and tell his wife, but he finally hit upon an idea.

He called up his wife, and when she answered, he shouted, "I'm back! Don't pay the ransom."



Plans, photographs and descriptions of bulk grain handling facilities planned and erected by engineers specializing in grain elevators of modern design.

In compiling and publishing Plans of Grain Elevators we have striven to give readers a clear understanding of the advantages to be obtained in following the latest practices of experienced grain elevator engineers in designing, constructing and arranging a modern elevator.

This volume, our Fifth Edition of plans and descriptions of grain elevators, is the most interesting and the most helpful work on design and construction of grain elevators yet published. It has been confined to illustrated descriptions of Grain Elevators of North America because these elevators have been designed especially to meet the needs and conditions confronting grain merchants of this continent. It should be of real help in crystallizing the ideas of grain dealers to the facilities best suited to the needs of their business, and in giving builders definite ideas as to what they want.

This new volume contains over 968 illustrations and descriptions of elevators constructed of concrete, tile, brick, steel and wood. Many central market storage, transfer and cleaning elevators, as well as country receiving and shipping elevators are illustrated and described. All are designed to expedite, facilitate and reduce the cost of handling bulk grain. Nothing has been taken from previous editions.

Many illustrations of feed grinding and mixing elevators as well as grain elevator offices, cob burners, corn cribs, conveyor galleries should help every dealer desiring to modernize his facilities.

This 5th edition of plans of Grain Elevators of North America is printed on 500 pages of book paper, size 9x12 inches, bound in Art Canvas, shipping weight five pounds, price \$5.00 plus postage.

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It Costs Too Much!

YES, That Right!! . . . It Costs Far Too Dearly To Permit Your Plant Restoration Work To Be Delayed Even a Single Season . . . Those With Costly Past Experience Know That The Rate Of Deterioration **ZOOMS** Upwards With The Passing Of Each Successive Year . . . Hence The Cost Of An Intelligent Periodic Building Maintenance Program Quickly And Profitably Liquidates Itself **IN EVERY WAY!**

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Every Day The Elements Are Gnawing Away at Your Properties, Eating Up and Tearing Down Your "House Of Cards." Why Not Protect Yourself As Best You Can By Consulting With . . .

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